This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

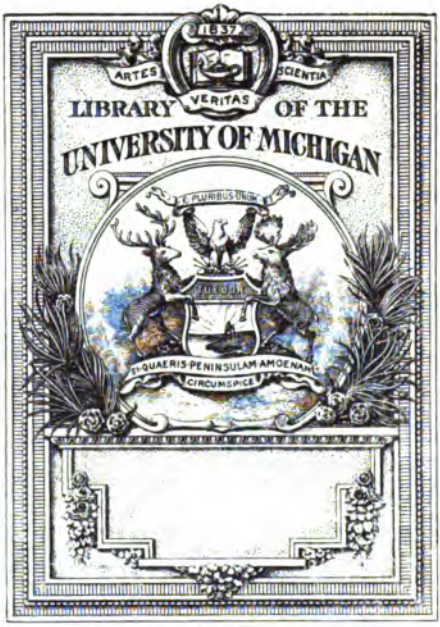
About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

1837
ARTES VERITAS SCIENTIA
LIBRARY OF THE
UNIVERSITY OF MICHIGAN
SI QUAERIS PENINSULAM AMOENAM
CIRCUMSPICE

THE GIFT OF
Dr. Geo. Dock

610.5
T355
58m
v.28-2



THE GIFT OF

Dr. Geo. Dock

610.5
T35
Sér
v.28

3 6 4 6

J. C. LOGGEN, M. D.
TEXAS.
PRESIDENT, 1896

TRANSACTIONS

OF THE

Texas State Medical Association,

TWENTY-EIGHTH ANNUAL SESSION,

HELD AT

FORT WORTH, TEXAS,

APRIL 28TH, 29TH, 30TH, AND MAY 1ST, 1896.

AUSTIN, TEXAS:
EUGENE VON BOECKMANN, PRINTER, BOOKBINDER AND STATIONER.
1896.

NOTE.

The Association does not hold itself responsible for the views enunciated in the papers and discussions published in this volume.

Minutes and discussions stenographically reported by Hamlin and Llew Palmer, Fort Worth, Texas.

H. A. West, M. D., *Secretary*,
Galveston, Texas.

2020 Market Street.

149944

CONTENTS.

PAGE.

Officers for 1896-97 9–11

Constitution and By-Laws 13–18

Minutes of the Twenty-Eighth Annual Meeting 23–98

Section on General Medicine—

Notes on Some of the Newer Methods of Treatment of Nervous and Mental Diseases. By Frederick Peterson, M. D., New York 103–124

Influences of Climatic Conditions and Weather Changes on the Functions of the Skin. By Isaac M. Cline, M. D., Galveston 125–133

The Treatment of Appendicitis Considered from a General Standpoint. By A. H. Schenk, M. D., Kinney 134–143

Hæmatamesis, Report of a Case. By W. R. Blailock, M. D., McGregor 144–150

The Effect and Result of Sero-Therapy in Tuberculosis. By Paul Paquin, M. D., St. Louis, Mo 151–162

The Prevailing Diseases of East Texas, etc. By H. L. Tate, M. D., Lindale 163–175

On the Action of Apolysin. By David Cerna, M. D., Galveston 176-186

Diphtheria and Pseudo Diphtheria, etc. By C. O. Matthews, M. D., Terrell 187–200

Report of a Case of Atypical Typhoid Fever, etc. By Lawrence Ashton, M. D., Dallas 201–205

PAGE.

Section on Obstetrics and Diseases of Children—

Report of Chairman J. J. Williamson, M. D., Cleburne..... 207–211
Puerperal Septicæmia, Relation to Erysipelas, etc. By W. M. Yater, Grandview..... 212–219
Report of a Case of Cæsarian Section. By J. E. Gilcreest, M. D., Gainesville..... 220–223

Section on Surgery—

Some Cases of Osteomeyelitis. By W. R. Blailock, M. D., McGregor..... 224–232
Report of a Case of Cancer of the Kidney. By W. J. Lane, M. D., Dallas..... 233–239
Asepsis in Surgery. By Z. T. Bundy, Milford..... 240–242
Modern Treatment of Sprained Ankle. By J. E. Gilcreest, M. D., Gainesville..... 243–247
Cases of Chloroform Anæsthesia. Henry P. Cooke, M. D., Galveston..... 248–255
Three Cases of Cholecystotomy. By A. W. Fly, M. D., Galveston..... 326–328

Section on Medical Jurisprudence, Etc.—

A Plea for Reform in Criminal Jurisprudence. By F. E. Daniel, M. D., Austin..... 257–276

Section on Gynecology—

Report of Chairman, T. J. Bell, M. D., Tyler..... 277–284
Tubal Pregnancy. By Joseph Price, M. D., Philadelphia, Pa. 285–295
Conservatism in Gynecology. By R. R. Walker, M. D., Paris, 296–304
Appendicitis—Relation to Gynecology and Obstetrics. By Paul F. Munde, New York..... 305–312

PAGE.

Some Mistakes of Surgical Gynecology. By. T. A. Stoddard, M. D., Pueblo, Col. 313–320

Case of Plural Ectopic Gestation. By P. Michinard, M. D., New Orleans, La. 321–325

Section on State Medicine and Public Hygiene—

State Care of Insane Epileptics, etc. By F. S. White, M. D., Terrell 329–341

Medical Education, etc. By J. A. Mullen, M. D., Houston, 342–367

Section on Ophthalmology and Otology—

Report of Chairman, John O. McReynolds, M. D., Dallas..... 369–372

The Eye in its Relation to Health. By H. L. Hilgartner, M. D., Austin 373–379

Eye Surgery by the General Practitioner. By E. J. Neathery, M. D., Van Alstyne 380–385

Eye Injuries Commonly Arising in General Practice. By G. W. Grove, M. D., Kansas City, Mo. 386–391

Ocular Effects of La Grippe. By R. F. Miller, M. D., Sherman 392–395

Observations on Treatment of Concomitant Strabismus. By Vard H. Hulen, M. D., Galveston 396–402

Relationship Between Diseases of the Eye and Brain. By Robt. F. Le Mond, M. D., Denver, Col. 403–410

Report of a case of Epilepsy Due to Nasal Obstruction. By Frank C. Todd, M. D., Minneapolis Minn. 411–413

Functional Impairment of the Auditory Center as the Result of Catarrhal Deafness. By J. A. Mullen, M. D., Houston 414–423

PAGE.

Section on Dermatology—

Report of Chairman, Geo. H. Lee, M. D., Galveston..... 425–431

The Management of Staphylogenous Diseases of the Skin. By Arthur Van Harlingen, M. D., Philadelphia.....432–437

Erythema Multiforme—Report of Case Following Circumcision. By R. W. Knox, M. D., Houston..... 438–442

In Memoriam..... 443–444

New Members..... 447–448

Honorary Members..... 449

Ordianary Members..... 451–458

Auxiliary Associations in Affiliation..... 459

List of Officers Since Organization..... 460–461

OFFICERS FOR 1896-97.

PRESIDENT.

J. C LOGGINS ..... Ennis

FIRST VICE-PRESIDENT.

A. N. DENTON ..... Austin

SECOND VICE-PRESIDENT.

J. S. LETCHER ..... Dallas

THIRD VICE-PRESIDENT.

DAVID CERNA ..... Galveston

SECRETARY.

H. A. WEST ..... Galveston

TREASURER.

J. LARENDON ..... Houston

JUDICIAL COUNCIL.

J. H. O'HARA, Grandview ..... One year
E. W. LINK, Palestine ..... One year
J. C. LOGGINS, Ennis ..... One year
J. M. INGE, Denton ..... One year
J. W. HAMILTON, Lampasas ..... Two years
F. R. MARTIN, Kyle ..... Two years
W. H. MONDAY, Terrell ..... Two years
F. S. WHITE, Terrell ..... Two years
J. E. GILCREEST, Gainesville ..... Three years
F. A. FULLER, Jacksonville ..... Three years
J. D. OSBORN, Cleburne ..... Three years
A. B. GARDNER, Bellville ..... Three years

ORATOR.

J. O. MCREYNOLDS ..... Dallas

SECTION ON GENERAL MEDICINE.

Lawrence Ashton, Chairman.....Dallas
H. L. Tate, Secretary .....Lindale

SECTION ON OBSTETRICS AND DISEASES OF CHILDREN.

A. M. Douglass, Chairman.....Covington
R. L. Miller, Secretary.....Denton

SECTION ON SURGERY.

Bacon Saunders, Chairman.....Fort Worth
A. C. Scott, Secretary .....Temple

SECTION ON MEDICAL JURISPRUDENCE, ETC.

T. J. Bennett, Chairman .....Austin
F. S. White, Secretary .....Terrell

SECTION ON GYNECOLOGY.

R. R. Walker, Chairman, ...Paris
S. B. Kirkpatrick, Secretary .....Commerce

SECTION ON STATE MEDICINE AND PUBLIC HYGIENE.

I. M. Cline, Chairman.....Galveston
Joseph A. Mullen, Secretary .....Houston

SECTION ON OPHTHALMOLOGY, ETC.

Vard H. Hulen, Chairman .....Galveston
R. F. Miller, Secretary .....Sherman

SECTION ON DERMATOLOGY, ETC.

Geo. H. Lee, Chairman.....Galveston
W. M. Yater, Secretary .....Grandview

SECTION ON MICROSCOPY AND PATHOLOGY.

W. R. Blailock, Chairman .....McGregor
W. F. Starley, Jr.....Galveston

PUBLICATION COMMITTEE.

H. A. West, Chairman .....Galveston
David Cerna.....Galveston
Vard H. Hulen.....Galveston

COMMITTEE ON NECROLOGY.

F. E. Daniel, Chairman ..... Austin
B. F. Brittain, Secretary ..... Arlington

COMMITTEE ON STATE BOARD OF HEALTH.

E. A. Woldert, Chairman ..... Tyler
F. A. Young, Secretary ..... Navasota

COMMITTEE ON MEDICAL SOCIETIES.

W. R. Blailock, Chairman ..... McGregor
E. A. Woldert ..... Tyler
L. L. Shropshire ..... San Antonio
Jos. D. Becton ..... McKinney
S. E. Hudson ..... Austin

COMMITTEE OF ARRANGEMENTS.

R. R. Walker, Chairman ..... Paris

TIME AND PLACE OF MEETING.

Paris ..... Fourth Tuesday in April, 1897.

CONSTITUTION AND BY-LAWS

OF

THE TEXAS STATE MEDICAL ASSOCIATION.

AS AMENDED AND ADOPTED AT THE 28TH ANNUAL MEETING, FORT WORTH, 1896.

CONSTITUTION.

ARTICLE I.

The name and style of this association shall be the "TEXAS STATE MEDICAL ASSOCIATION."

ARTICLE II.

The object of this association shall be to organize the regular medical profession of the state in the most efficient manner possible; to encourage a high standard of professional qualifications and ethics; to promote professional brotherhood; to labor for the advancement of state medicine, *i. e.*, of public hygiene: of medical education; of medical jurisprudence and public institutions for the sick and infirm.

ARTICLE III.

Every regularly educated physician within the limits of this state, who is a graduate of a regular medical college in good standing, and who adopts and conforms to the Code of Ethics of the American Medical Association, shall be eligible to membership in this association, except those of the negro race; provided that no person shall be eligible to membership who has not complied with the laws of Texas governing the practice of medicine now in force or that shall be hereafter enacted.

ARTICLE IV.

SECTION 1. The officers of this association shall be one president, three vice presidents, one secretary, one treasurer, nine chairmen and secretaries of sections, and twelve members of the judicial council.

SEC. 2. The president and vice presidents shall be elected for one year: the secretary and treasurer shall be elected each for five years;

and every officer shall remain in office until his successor is duly elected and installed.

ARTICLE V.

SECTION 1. It shall be the duty of the president to preside at all meetings of the association, when present; to give the casting vote; to see that all the rules of order and decorum are enforced in all deliberations of the body; to sign the approved proceedings of each meeting, and to approve such orders as may be drawn upon the treasurer for expenditures ordered by the association.

SEC. 2. It shall be the duty of the first vice president to preside in the absence of the president; and in the absence of the president and first vice president the second vice president shall preside; and in the absence of the president, first and second vice presidents the third vice-president shall preside.

SEC. 3. In the absence of the president and all the vice presidents the association shall, by ballot, elect one of its members to preside *pro tem.*

SEC. 4. It shall be the duty of the secretary to keep a true and correct record of the proceedings of each meeting; to preserve all books, papers and things belonging to the archives of the association; attest all orders drawn upon the treasurer for moneys appropriated by the association; keep a register of the members, the dates of their admission and places of residence. He shall attend all committees that may be appointed by the association with such documents as may be necessary for reference; report such unfinished business of the previous meetings as may appear upon his books, requiring action, and shall attend to such other business as the association may direct. He shall also supervise and conduct all the correspondence of the associaciation.

SEC. 5. It shall be the duty of the treasurer to collect all moneys due the association and receipt for same: and keep the accounts of the association with its members, and pay all orders drawn on him by the president and attested by the secretary and by the chairman of the committee of publication, and make an annual report of the finances of the association, and furnish the secretary with a list of delinquent members; and if required, give bond for the faithful performance of the duties of his office.

ARTICLE VI.

Vacancies occurring in the offices of the association shall be filled by appointment by the president, and he shall have the appointment of all the committees not otherwise provided for.

ARTICLE VII.

SECTION 1. County and district societies in affiliation with this association shall be entitled to representation at each meeting of the association upon this basis, to-wit, two delegates for every ten members, and one for each fraction of ten over five.

SEC. 2. Before admission to a seat in this association each delegate shall produce a certificate of delegation duly signed by the secretary of his society and pay to the treasurer the annual dues of $5.00.

SEC. 3. Delegates shall have the rights and privileges of members for that meeting of the association to which they are sent.

SEC. 4. Delegates to this association from any other state or national association, who shall present certificates of delegation duly signed, shall be entitled to seats and to participate in the scientific business of the association, but shall not be entitled to vote or be required to pay dues.

SEC. 5. This constitution shall immediately take effect from its adoption.

BY-LAWS.

ARTICLE I.

The Texas State Medical Association shall meet annually at such time and place as may be determined by the committee on nominations.

ARTICLE II.

Fifteen members or any number over shall constitute a quorum for business.

ARTICLE III.

The president shall call the meeting to order, cause the secretary to read the proceedings of the previous meeting, which after approval, shall be adopted.

ARTICLE IV.

In case there be no quorum, the meeting shall adjourn from day to day until such quorum be had.

ARTICLE V.

The annual dues of each member shall be $5.00 United States currency.

ARTICLE VI.

The usual parliamentary rules governing deliberative bodies shall govern the business workings of this association.

ARTICLE VII.

All questions of business before this association shall be determined by a majority of votes present.

ARTICLE VIII.

It shall be the duty of the president to deliver, at each annual meeting of the association, an address.

ARTICLE IX.

One member from each congressional district represented shall constitute a committee on nominations for offices and place of meeting. Said committee shall report action at the beginning of the session on the morning of adjournment. Five members shall constitute a quorum for the transaction of business. Their duties shall be to nominate a president, three vice-presidents, secretary, treasurer, members of the judicial council, delegates to the American Medical Association, and places of meeting.

ARTICLE X.

The secretary of the association shall receive, as a compliment, at each annual session, a draft from the president upon the treasurer for the sum of $200.00 for valuable services rendered the association, said order to be paid by the treasurer; and he shall also be allowed to draw upon the treasurer, as usual, for expenses incident to the office. The treasurer shall receive for his services $150.00.

[NOTE.—The following resolution was adopted at the Austin meeting, April 28, 1887: *Resolved*, That in future no advertisements be inserted in the volumes of transactions of the association, and that $300.00 each year be set aside from the treasury as compensation to the publishing committee for their time and labor in editing and publishing the transactions.]

ARTICLE XI.

It shall be the duty of the president, three months prior to each annual meeting of the association, to notify by circular, the profession of the state and county organizations throughout the state, and urge attendance.

ARTICLE XII.

No personal grievances shall be allowed to come before the general body for discussion. All questions of a personal character, including

complaints and protests, and all questions on credentials, shall be submitted in writing, read by the secretary, and referred by the president at once to the judicial council, without discussion.

ARTICLE XIII—JUDICIAL COUNCIL.

SECTION 1. A council consisting of twelve members shall be appointed by the nominating committee, whose duty it shall be to take cognizance of and decide all questions of an ethical judicial character that may arise in connection with the association.

SEC. 2. Of the twelve members of the council first appointed the four first named on the list shall hold office for one year, the second four named shall hold office for two years, and the third four named shall hold office for three years; so that four new members shall be appointed each year, who shall hold office for three years. The said council shall organize by choosing a president and a secretary, and shall keep a permanent record of its proceedings.

SEC. 3. It shall be the duty of the judicial council to discipline members for infraction of the Code of Ethics, or for violation of any special order or resolution of this association, its Constitution or By-laws. Such discipline may be either (*a*) reprimand, (*b*) suspension for any definite period, (*c*) expulsion from the association.

SEC. 4. Charges against a member shall be presented in writing over the signature of the accuser, with specifications as to time and place of the offense and names and residence of his witnesses, to the chairman of the judicial council, who shall submit the same to the council at its next meeting.

SEC. 5. The judicial council shall consider the charges and specifications, also the reliability of the accuser and the witnesses, and shall by vote decide either to "entertain" or "not entertain" said charges. In the later case the charges shall be returned to their author with the action of the council endorsed thereon. If the council decides to entertain the charges, it shall notify the accused, furnish him with a copy of the charges, specifications and names of witnesses, also the time and place where the case shall be heard. The accuser shall also be notified of the same and instructed to have his witnesses present. After a full hearing the council shall vote upon the guilt of the accused, and if guilty, assess his punishment. As soon after the trial as possible, it shall be the duty of the council to report its action to the association.

SEC. 6. The association shall thereupon, without discussion, vote upon the report of the council by ballot, a majority deciding its adoption or rejection. The action of the association shall be final, the association claiming jurisdiction as to who shall constitute its members

[illegible] those who violate its [illegible] not exceeding [illegible] and not to exceed [illegible] remainder of the [illegible] sessions shall [illegible] and their considera- [illegible] and Physiology. [illegible] and Psychology. [illegible] any. [illegible]

ARTICLE XV.

[illegible] the sections of this association shall [illegible] minutes, except by permission. All [illegible] five minutes, unless by unanimous con- [illegible] except the author of the paper, who shall have [illegible] close, and no member shall speak to the same [illegible] without permission.

ARTICLE XVI.

[illegible] vice presidents of the association shall constitute [illegible] it shall be at each meeting of the association [illegible] and secretary for each section to serve during [illegible] year. The committee shall also select the name [illegible] for each section, a member to present the subject, [illegible] the discussion of same. These officers shall hold [illegible] the close of the proper business of the annual meet- [illegible] succeeding their election, and until their successors are ap- [illegible] This committee shall present its report to the association [illegible] morning of adjournment after the report of the nominating committee. Vacancies in this committee shall be filled by appoint- [illegible] of the president.

MINUTES

OF THE

TWENTY-EIGHTH ANNUAL MEETING

OF

The Texas State Medical Association,

HELD AT

FORT WORTH, TEXAS,

April 28th, 29th, 30th, and May 1st, 1896.

MINUTES

OF THE

TWENTY-EIGHTH ANNUAL MEETING

OF

The Texas State Medical Association,

HELD AT

FORT WORTH, TEXAS,

April 28th, 29th, 30th, and May 1st, 1896.

TEXAS STATE MEDICAL ASSOCIATION.

TWENTY-EIGHTH ANNUAL MEETING

FIRST DAY—*Morning Session.*

TARRANT COUNTY COURT ROOM, FORT WORTH, TEXAS,
April 28, 1896.

The Association was called to order at 11 o'clock a. m., by Dr. Bacon Saunders, Chairman of the Committee on Arrangements.

Invocation by Rev. J. B. French, of the 2nd Presbyterian church.

On behalf of the municipality of Fort Worth, Hon. B. B. Paddock, Mayor, addressed the Association as follows:

Mr. President and Gentlemen of the Texas State Medical Association:

It is with unusual pleasure I am permitted, as chief executive of this city, to welcome you to our midst this morning. You have met today, gentlemen, in the finest building in the best city, in the greatest State of the greatest country on earth. It is an honor to this city gentlemen, that your Association has consented to come among us to hold your twenty-eighth annual meeting, and our citizens are delighted, through their mayor, to welcome you and extend to you their cordial and heartfelt greeting. The medical fraternity of this city, I am proud to say, is head and shoulders above that of any other city of its size anywhere, and will make your stay with us pleasant and profitable: and I make this remark concerning the medical fraternity of this city because they are ours, and not to cast any reflection upon the worthy and highly qualified physicians of other towns of the State. "By their works ye shall know them," and it is by the work of the physicians of Fort Worth that we judge them.. Not only do they

stand at the head of their profession, but they are enterprising, go-ahead, dashing business men. By their efforts they have set down in our midst an institution of which we are proud, a medical college with which, doubtless, many of you are familiar. This institution is the work of the physicians of Fort Worth, which they have accomplished so far without the aid of the authorities or of our own citizens, or of the citizens of any other section of the State. It is their own work, and I am proud to say, that in the second year of its history it stands head and shoulders above the record of any other institution in its second year's experience. This, gentlemen, is an indication of the class of men who are your hosts upon this occasion. Permit me to say, in behalf of the citizens of Fort Worth, that if they in any manner fall short of their duty, you will please report the fact to the mayor, and I will see that they are properly disciplined for their neglect of duty. I hope, gentlemen, that your stay in our city will be as profitable to you as it will be pleasant and agreeable to us, and that your deliberations will result in advancement of the great work which you have before you. You all know, if you don't I do—possibly the fact has not been mentioned to you, but the doctor is the last man a person ever wants to see, but when he does want to see him, he wants to see him awful bad and awful quick. The advancement that has been made in your profession during the last decade is marvelous, wonderful, and yet we are told that the beginning is only in sight, and that there are yet other achievements in the skill and science of this wonderful profession of which we laymen know so little, that it will surprise even those who are familiar with the advancement that has been made in medical science and in surgery in the last ten years: and it would not surprise me if in the near future a good housewife would call out to her husband as he leaves the house for his work in the morning admonishing him, as she always does of some necessary commissions in the city, "John don't forget to go by the doctor's office and bring home Mary Jane's liver when you come, that has been sent down there to be repaired." Some of these developments that have been made in your profession are equaled only by the advancement made by the great wizard Edison in the appliance and use of electricity. It is but a few years ago when it was thought criminal to attempt operations which are now performed with perfect ease by numberless members of your profession, because they were thought to be wholly impossible and impracticable. It is absurd, gentlemen, for me to attempt to tell you anything you do not know. These facts are more familiar to you than they are to me or to my hearers outside of your profession. Returning to my purpose and privilege, I again, in behalf of the citizens of Fort Worth, extend to you a cordial and heartfelt greeting to our

beautiful city, and again express the hope that your stay with us may be as profitable to you as it will be pleasant to us.

Dr. Saunders then introduced Hon. Samuel T. Camp, who in behalf of the citizens of Fort Worth, addressed the meeting as follows:

Mr. Chairman and Gentlemen of the State Medical Association:

To me has been assigned in part the pleasant task of extending to you on behalf of the citizens of Fort Worth, a hearty welcome to our city. When I consider the far-reaching benefits which result from your deliberations, and realize that the purpose of your coming together is for the advancement of a science, the promotion of which redounds to the good of the whole human race, I can say in sincerity that this city is honored by your presence. The members of your profession are so often summoned in an hour of peril, and their coming watched with such anxious expectation, that it seems but natural that you should be welcome visitors at any time and upon any occasion. Not alone is a single household interested in your meetings. Not alone does a single avocation derive a benefit from your discussions, but throughout the length and breadth of the great State of Texas, the people look to you as the guardians of the public health. Often to your care is confided the most sacred trusts that can be reposed—when danger invades our homes and accident or disease threatens the safety of our dear ones, it is to you we turn in our distress, and it is your skill and assistance in that dark hour that are anxiously sought. How often have you been called when death was about to rob a household of one of its dearest inmates; how often have your services saved a loving parent, and how frequent it is when a little one has been attacked by some of the numerous ills which beset childhood, that you are asked to administer relief to these dear objects of our solicitude. Gentlemen, you perform an important mission in life. No one can understand the purpose and extent of your labors and fail to appreciate the exalted character of your calling. The industrious pursuit of any honest avocation is commendable, but the importance of it increases according to its value and necessity to the greatest number of mankind. Measured by that standard, in what estimation should the profession of medicine be held? In infancy, in childhood, in manhood, and old age, you are expected to arrest the approach of disease and administer to the afflicted. There is no condition in life which is exempt from the ills you are called upon to relieve. Your services are sought alike, in the palaces of the rich, and the hovels of the poor, and are indispensable in some form to every age, to every race, and in every

clime. Perhaps no other calling imposes upon those who pursue it as grave responsibilities as rest upon you. Your services are so often invoked when a short delay or slight error in judgment would involve the loss of the life of a human being, and how serious would be the thought that a person, who through confidence in your skill and ability, turning to you in pain or distress, and entrusting to you in that critical moment the care of his life, should lose it through a fault of yours? In every calling mistakes are sometimes made, but the probabilities of serious results in your profession increase their magnitude in an infinite degree, and add to the same extent to the responsibilities which you assume. How careful you are, and how fully you respond to the exigencies which so often arise, are best attested by the affectionate regard in which the family physician is universally held. There is something in the study and practice of medicine which appeals to the best and loftiest impulses of mankind. Its first teachings are directed to the understanding of the human system, the machinery from which every human action is evolved. Its chief object is to keep in repair this wonderful piece of mechanism, and adjust it to the uses and purposes for which God created it. You can perhaps best appreciate what Shakespeare meant when he said, "What a piece of work is man." You have given a name to all his nerves, and muscles, and veins, and bones; have divided his skin, and beneath your searching glance the tiniest hair reveals a structure wonderful within itself. You trace the blood in its course through the human body; you know the location, and offices, and functions, of all the nerves; you are called upon to determine the nature of troubles which infant tongues are unable to describe; you are called to mend the broken bones from boyhood's pranks; you are summoned when the object of malice and revenge is suffering the pain which vengence has inflicted, you must extract the assassin's bullet, and heal the wound which sudden wrath now regrets; you must visit the sick bedside, and read the history of the malady from the lusterless eye and throbing pulse; you listen to the symptoms which anxious love exaggerates, and judge for yourself the nature of the disease. The story of long hidden guilt finds expression in your presence, and shame and remorse confide to your keeping secrets which are told only to you. When disease invades the dome of thought, and the dull eye disclosses that reason has abandoned her throne, from you alone is relief expected. When life, from melancholy or misfortune, has become a burden and self-destruction is sought, you must decide upon the moment the means of restoration, and add your cheering counsel to the afflicted. And last, when the nature of the malady is too serious to yield to your care and skill, or when the machinery which you have so long watched and so often repaired ceases from age

to respond to its accustomed uses, you must be present to lull the pains of death and do all to soothe the dying hour, which science will require or sympathy suggest. You witness the deathbed scene; you listen to the last utterances of expiring love, and hear the whispers of affection, spoken back as from eternity. You feel the last pulsation; you hear the last breath, and see the eyes close in death; you are the last to administer to the loved one, the offices of kindness and assistance: and is it strange that when you leave that chamber there should follow you the tenderest feeling of endearment and gratitude. Oh, how many phases of life come under your observation; from its beginning to its close you are entrusted with its preservation, and bear witness to its frailty. Yours is a study in part of human nature, and its glories and vices are opened to your inspection. You are called at a time when the mask that is worn before the world has been discarded, and you are introduced to the real self. You witness the human character under its severest ordeals, and see exhibited perhaps in a single day on the one side tendernesss, sympathy, affection, heroism and charity, on the other, malice, revenge, cruelty, cowardice and brutality. There is much in the study and practice of medicine to elevate the character, as well as to broaden and expand the mind; it involves necessarily a life of self-sacrifice, and thereby inculcates and brings into constant practice one of the sublimest principles of the moral law. Your profession too is increasing in dignity, and growing in popularity: it is perhaps making more rapid progress in the domain of science than any other. Your associations afford excellent opportunities for the interchange of ideas and the devolopment of that fraternal feeling which should characterize every calling in which fellowmen labor together for the upbuilding of a noble cause. Gentlemen, allow me to assure you that the people of Fort Worth are aware of the importance of your Association, and appreciate the compliment you have conferred by holding this session within our gates.

Dr. Bacon Saunders then delivered the address of welcome on behalf of the medical profession of the city, as follows:

Mr. President and Gentlemen of the State Medical Association:

It is a pleasure to me always to grasp the hand of a doctor in friendly greeting; it is a double pleasure to welcome him to my own home—my own fireside; and it is a threefold pleasure to greet on this occasion the representatives of all the doctors of the great State of Texas, and bid them welcome in the name of their loyal brethren, the medical fraternity of Fort Worth, my adopted city, and in this name, gentlemen, I am commissioned to bid you a hearty and cordial wel-

come. From whatever direction—if you come as a brother worshipping at the feet of our common mistress—a true and faithful devotee at the shrine of the science of medicine, we greet as such and bid you thrice welcome within our gates. The earnest toiler in the search of the hidden laws of the science of medicine will find among us, it is hoped, the fullest sympathy in all his efforts, and those who delight in the practice of surgery as one of the most ennobling and humanitarian of all earthly callings will not feel, while sojourning among us, like strangers in a strange land. We are glad you have come, gentlemen, because you are who you are, and what you are. The doctor whose field of duty lies remote from the larger centers of population, whose ear is familiar with the wierd cry of the night-bird, whose garments are often bespattered with the mud and mire of the lonesome highway, and whose life is a conspicuous example of devotion to duty under circumstances requiring the highest order of moral courage and the largest drafts on physical endurance, is no less welcome here on this occasion than his better barbered and better tailored brother from the city's crowded thoroughfare, and we are glad to draw from such a life new lessons of self-sacrificial devotion to duty. We know full well the towns and cities do not contain all the knowledge and virtue of our profession any more than all the saints of the world live within the shadows of their church steeples. Some of the greatest minds and choicest spirits among us developed the science of medical practice and laid the foundation for fame in some country district. The immortal Gross, the Nestor of American surgery, whose brow will ever be encircled with the halo of great deeds, to which is added the example of a pure and stainless life, was from a small town in Pennsylvania, whence he went to take a place of great honor and establish an illustrious monument to American surgery wherever it is known as a science or practiced as an art. The illustrious Sims went from a small village in Alabama to become the idol of a continent, and found a new department of operative surgery that will render his name famous wherever operative gynecology is practiced. You love medicine, and are jealous of her fair name. You, too, are enlisted under the banner of Prince Esculapius, and are pledged to defend his cause. I shall not ask whether you are from hamlet, village, town, or city; whether from the boundless, treeless plains of the northwest; or whether from the east, where the air is musical with the murmur of the pines and redolent with the perfume of the peach and apricot; or whether from the center of the State, where the land is waxy, where the corn grows tall and cotton is king; or from the south, where the live-oak grows and the magnolia and oleander bloom, and where the mosquito sings his "cute" song all the night long; if yon are but Texans, or friends of Texans,

you are the salt of the earth, and our hearts and our doors are open to you. This meeting of the Association, gentlemen, is one of the most important in its history, and is destined, I believe, to mark an epoch in its growth. If its importance is to be measured by the amount of work to be done, there has not been so important a meeting in the twenty-eight years of its existence. The progress of medicine and surgery in Texas has been so rapid that the doctor who does not keep step with the march will soon be so far behind that he can not even see the rear-guard, and can not certainly keep in touch with the forward movement of the procession. Let us hope that every member has come with an eye single to the upbuilding of the practice of legitimate medicine and surgery in the "Lone Star" State, the protection of its weak places, the widening of its field of usefulness in every possible direction, and the elimination from its practice of everything that is not ennobling and Godlike. Shades of the adopted fathers of Texas medicine and surgery, immortal spirits who gave our profession name and honor in the morning of its history, may you look upon us now and mark with pleasure that temperance and wisdom of action which alone shall give us title as heirs to your legacy of worthy praise.

Dr. Saunders then introduced Dr. P. C. Coleman, President, who responded in behalf of the Association as follows:

In behalf of our members it is my privilege to respond to the generous words of welcome of his honor the Mayor and these other distinguished gentlemen. I am unable to say what it is, but I know it is true that there is something about the hospitality of the people of this progressive city which always makes a stranger feel at home. And again, whenever in the history of an organization, whether it be scientific or otherwise, a spirit of progress takes possession of that organization, it at once concludes that Fort Worth is the place to go. Hence, the twenty-eighth annual meeting of the Texas State Medical Association is in your midst on this occasion. Please convey to your people our heartfelt appreciation of their graceful and cordial welcome.

The roll was called by the Secretary. A quorum being present, President Coleman declared the Association ready for business. The Secretary then read his annual report, as follows:

SECRETARY'S ANNUAL REPORT.

Mr. President and Gentlemen:

I beg leave herewith to present my annual report, incorporating with the same a statement as to the publication of the transactions for 1895:

Membership now on the roll: Ordinary members, 355; honorary members, 24; total, 379.

Elected at Dallas, April, 1895: Ordinary members, 36; honorary members, 3; new members, 39.

Members dropped for non-payment of dues, 31; transferred from active to mortuary roll, 5; total dropped, 36.

Difference between number added and dropped, 3; on the roll of transactions of 1894, 376; total as shown above, 379.

Deaths since last report: We have lost by death since our last meeting the following members, viz: Dr. G. M. D. Patterson of Franklin, Tex., died July 8, 1895; Dr. Josephus Cummings of Austin, died July 13, 1895; Dr. W. P. Burts of Fort Worth, died September 5, 1895. There may have been other deaths, but the above only have come under my notice.

The transactions for 1895: Bids for publication of the transactions were received from Clarke & Courts and Knapp Bros., of Galveston. The best bid was made by the last named firm, which was as follows: For 500 copies, 350 cloth bound and 150 paper cover at $1.47½ per page, brevier type, and $1.45 per page, long primer. This bid was accepted. Afterward I concluded it was best to issue 400 copies in cloth at a slight additional cost. The publication bill is as follows: Three hundred and fifty copies of transactions, cloth, and 150 paper at $1.47½ per page brevier, and $1.45 per page long primer; 350 pages at $1.47½, $516.25; 31 pages at $1.45, $44.95; 50 copies changed from paper to cloth, $8.50; postage on 389 copies, cloth, $46.68; postage on 76 copies, paper, $6.84; addressing, wrapping and mailing, $20; 50 per cent. cost of Dr. Cline's exhibits, $5; total, $648.22.

By cash Nov. 16, 1895, $75; by cash Dec. 10, 1895, $530; total on account, $605; balance due, $43.22.

There is still due the printers for the following: 1000 8-page programmes with cabinet envelopes, $22.75; addressing and mailing, $4; postage, $7.80; total, $34.55.

This makes a total balance due of $77.77; cost per volume nearly $1.15; cost per volume delivered about $1.30; number of volumes delivered to members 379; delivered to other associations, public libraries, medical journals, etc., 86; on hand, cloth volumes, 6; on hand, paper volumes, 17; sold, cloth volumes, 6; subsequently distributed, 6; total, 500.

Economy was exercised by reducing the size of the volume, by publishing a smaller number and by limiting the number of cloth bound copies, in spite of which the treasurer was not able to meet the entire payment, leaving a small balance due as above stated.

The delay in the issuance of the transactions was due to the failure

of an author to furnish his paper. The article was a valuable one, which I was unwilling to omit, but was finally forced to do so, as the first of October, the date when the paper was promised, passed with the agreement unfulfilled. Hereafter I will wait for no paper which is not in my hands when the proceedings are ready for publication. The mistakes in addresses of several members and omissions of names were due to errors in the list furnished me by the Treasurer. Members are requested to notify me of changes of residence, as I can have no intuitive knowledge of the same.

A number of members have doubtless failed to receive a copy of the transactions, due to change of location, also to loss of the address from the wrapper being torn off; for the latter, the publishers are responsible, and I will see to it that no such fault shall occur in the future. If any one present did not get the copy due him, it will give me pleasure to supply him.

Respectfully submitted,

H. A. WEST,

Secretary and Chairman of Publication Committee.

On motion the report was received and referred to the following committee, appointed by the President: Drs. C. M. Alexander, S. Bowers, A. B. Gardner.

Treasurer J. Larendon then read his annual report, as follows:

TREASURER'S REPORT.

Dr. J. Larendon, Treasurer, in account with the Texas State Medical Association:

RECEIPTS.

1895.		
April 22—To cash balance on hand, as per last annual report	$ 60 25	
1896.		
April 28—To cash collected from members for dues up to date	1,305 00	$1,365 25

DISBURSEMENTS.

1895.		
April 26—By cash paid Knapp Bros., balance due on 1894 transactions	$ 194 17	
April 26—By cash paid J. Larendon for Treasurer's salary	150 00	
April 26—By cash paid by Treasurer for postage	10 00	
April 26—By cash paid H. A. West for Seeretary's salary	300 00	

April 26—By cash paid to stenographer for services	50 00	
April 29—By cash paid for franchise tax.....	10 00	
April 29—By cash paid for postoffice money orders..	25	
April 29—By cash paid for services of janitor at Dallas.....	3 50	
August 14—By cash paid Fred Allen & Co. for gold medal.	15 00	
November 18—By cash paid Knapp Bros. for printing transactions (on account).....	75 00	
December 10—By cash paid Knapp Bros. for printing transactions 1896 (on account).....	530 00	
April 28—By cash this date, balance on hand.....	27 33	$1,365 25

E. & O. E. Respectfully submitted,

J. LARENDON, Treasurer.

Houston, Texas, April 28th, 1896.

On motion the report was received and referred to the following committee, appointed by the President: Drs. C. B. Raines, W. A. Watkins and J. H. Sears.

President P. C. Coleman then read his annual message and recommendations, as follows:

Fellows of the State Medical Association:

Since our last annual meeting the hand of death has been laid heavily upon our body. Dr. A. D. Paulus of Flatonia, Dr. Josephus Cummings of Austin, Dr. G. M. D. Patterson of Franklin, Dr. J. L. Carter of Dallas, and Dr. W. P. Burts of this city are numbered among our honored dead, and while it is not intended to discriminate between these, our brethren, whose memories we revere, I ask your indulgence for a moment, to allude to Dr. Burts, whose generous invitation, in connection with others, we are now enjoying. He died in this city on the 5th day of September, 1895. Genial and jovial, with a rare personal magnetism, his wise counsel will be sadly missed. The true friend, the accomplished gentleman, the skillful physician, those who knew him best loved him most. Who can, who will, take his place in this Association?

After much serious thought I submit for your consideration the following recommendations:

SCIENTIFIC.—One chief object of this Association is to labor for medical education, and in this connection I congratulate you on the action of the Board of Regents of our State University in adopting a four years' course for the University Medical School, but suggest you enter

a vigorous protest against the provision allowing graduates of the Literary Department at Austin to obtain the degree, after attendance on only three years' course.

No paper shall be read before any of the Sections which requires more than twenty minutes in its reading. No member shall address the Section more than once upon the same subject, nor speak longer than ten minutes.

TO INCREASE THE MEMBERSHIP OF THE ASSOCIATION.—All members of the State Association who are members of local or district societies, whether such societies are auxiliary to State Associations or not, are requested at the regular meetings of their societies to organize for the purpose of presenting the claims of the State Association upon every regular physician in the State. In territory where no society exists, any member of the State Association who may reside in any county of such territory, is requested to give a complete list of the physicians in his county to the nearest society, so that the appeal may be made to them through the society. All societies not auxiliary to the State Association are urged to become so; and to make their reports to the State Association at each annual meeting. I congratulate you further upon the decided impetus to medical organization in the State, and in fact, throughout the whole country. I ask your serious consideration of this important feature of the work of this Association, in order that this interest may culminate in gathering into the Association a larger part of the regular profession, thereby enabling us to secure such legislation as shall place us on equal footing with the profession of some other States: in a law regulating the practice of medicine, based upon justice alike to the faculty and the laity. Also the creation of a State Board of Health.

While a more intimate relation is earnestly desired, and should exist, between the State Association and subordinate organizations, I am at a loss to suggest any plan further than before alluded to, by which such results may be obtained. I hope by your wisdom a feasible plan may be suggested and adopted at this meeting. I will say, however, I am persuaded after considerable investigation, I believe it will be unwise to require, as a requisite to membership in the State Association, that the applicants shall belong to affiliating organizations.

FINANCIAL.—It is recommended the initiation fee of $5 be abolished, and annual dues shall be $3. While we have just cause to be proud of the volume of our transactions, making an elegant book for the library, I deem it wise to recommend to you the advisability of suggesting to our Publishing Committee that cheaper paper be used, and binding in paper instead of cloth, so that the cost shall not exceed 75 cents per volume.

In view of the fact that this Association is limited in its places of meeting to the larger cities, as they only have the said social facilities and have accommodations sufficient to induce a large attendance on the part of our members, and further, the expense growing out of entertaining the Association falling on but few, I would suggest that we take some action by which this expense will fall less heavily upon these generous few.

In conclusion, gentlemen, I wish to express my gratitude to you for your generous support in the discharge of the duties growing out of the position you honored me with a year ago. If this meeting is attended with the success we are justified in expecting, I feel it will be due largely to the unusual activity and zeal manifested on the part of our efficient Chairman of Committee of Arrangements, so ably assisted by the local faculty.

Believing, as I do, we are here under the inspiration of a loyal devotion to scientific medicine in our great State, "every man is expected to do his duty," and our efforts shall be crowned with glorious success. I wish you a pleasant and profitable session in this beautiful and progressive city.

On motion of Dr. H. A. West, the message was received and referred to the following Committee, appointed by Vice-President Wagley: Drs. J. T. Wilson, W. R. Blailock and A. N. Denton.

On call of the Judicial Council, only three members were found present, J. C. Loggins, W. H. Monday, L. Ashton. The following named gentlemen were appointed to act in place of absent members: J. W. McLaughlin, O. A. Scarborough, J. A. McGee, A. W. Fly, E. A. Jones, A. N. Denton, J. H. Blackburn, E. N. Camp. Dr. Denton was afterward excused, and Dr. S. Bowers appointed in his place.

Dr. Coleman then said:

[illegible] be applicants for membership [illegible] Association, should be made members [illegible] as soon as possible. [illegible] and secretary.

On recommendation of the Committee, and motion carried by the house, the report of Surgeon West was adopted.

The Secretary then read a letter from Dr. J. J. Chisholm, of

Baltimore, expressing regret at being unable to attend the meeting, upon which Dr. E. P. Becton spoke as follows:

Dr. Chisholm, who organized the first Medical Association in the United States, and for this famous work is an honor to the profession throughout the world. I move that the Association acknowledge receipt of this letter, and express its regret that the Doctor could not be present, and that the Secretary be instructed to convey the same to him, with the kind regards of this body.

Which motion was seconded and carried.

The Section on General Medicine was now called. In the absence of the chairman, Dr. W. R. Howard, of Fort Worth, was appointed chairman pro tem.; Dr. R. B. Grammer, secretary.

Before proceeding with the work of the section, the report of the Committee on Ways and Means for increasing the membership of the Association, appointed at the last meeting, was, on motion, made a special order for 8 o'clock in the evening.

Dr. H. A. West then read a paper on "Some Settled Questions in Regard to Diphtheria," prefacing same by the remark: "There are several other papers on this subject, and it being a matter of great interest, for the purpose of concentrating the discussion on this subject, I took the liberty of placing all the papers together."

On motion, the paper was received and referred to the Publishing Committee.

The Judicial Council then submitted a report on applications for membership, which, on motion, was received and adopted.

On motion, the paper of Dr. Peterson was made the first thing in order after dinner, and the meeting adjourned until 2:30 p. m.

FIRST DAY—*Afternoon Session.*

Association called to order at 2:30 p. m. by Dr. W. R. Howard, chairman pro tem. of the Section on General Medicine.

Dr. Frederick Peterson, of New York, then read a paper entitled "Notes on Some of the Newer Methods of Treatment of Nervous and Mental Diseases."

Discussion was opened by Dr. D. R. Wallace, of Waco, followed by Dr. C. M. Rosser of Terrell, and closed by Dr. David Cerna, of Galveston.

On motion, the paper was received and referred to the Publishing Committee, and the thanks of the Association tendered to its author.

Dr. A. P. Brown called the attention of the chair to the fact that the Section had consumed more than its allotted two hours, and the Section was closed.

The Section on "Obstetrics and Diseases of Children" was then organized, with Dr. J. J. Williamson, of Cleburne, in the chair, and Dr. C. M. Alexander, of Coleman, secretary.

Dr. Williamson then read his report as chairman of the Section, which was received and referred to the Publishing Committee.

Secretary West stated: "I had a letter from Dr. R. B. McKinney, of Memphis, Tenn., stating that he saw his name on the programme, which was the first notice he had that he was to read a paper; but that he would try to be on hand.

Dr. A. P. Brown, of Fort Worth, read a paper on "An Encephalocele and Peculiar Brain Action."

Discussion was opened by Dr. Frederick Peterson, of New York, followed by Dr. A. N. Denton, of Austin; Dr. A. E. McMahon, of Marshall, and closed by Dr. Brown.

On motion, the paper was received and referred to the Publishing Committee.

The Judicial Council presented a report upon applications for membership, and recommending the seating of Dr. Charles Williamson, Dr. Charles Watson and Dr. James Alexander as delegates from the Johnson County Medical Association, and Dr. E. A. Woldert as delegate from the East Texas Medical Association.

On motion, the report was received and adopted.

The committee, to whom was referred the report of the Treasurer, submitted the following: After due examination, finding vouchers and figures of the Treasurer correct, approves the same, which, on motion, was received and adopted.

The committee, to whom was referred the President's annual message and recommendations, reported as follows:

Your committee, appointed to take action upon the recommendations in the annual message of the President, beg leave to testify to the great importance of the matters contained therein, and to the zeal and devotion to the interests of the Association manifested by the President during the year, and respectfully submit the following:

1. NECROLOGY.—It is recommended that the record of deaths be referred to the Association to take such action as may be thought appropriate, on Wednesday afternoon, at an hour to be appointed for the purpose.

2. In the matter of the suggestion of the President that the Association enter a protest against allowing graduates of the State University at Austin to graduate in the Medical Department at the end of a three years' course, we recommend that such graduates be required, at the beginning of their course in the Medical Department, to pass the usual examination of a first course student in said department, and if said examination is successful that such student be allowed to proceed as a second course student and graduate at the end of three years, provided he passes the final examinations at the end of said course.

3. With reference to the matters of limiting the reading of papers to twenty minutes, and recommendations looking to the increase of membership of the Association, and those in regard to matters of finance, inasmuch as these several matters have been duly considered by a committee appointed by the Association at its last meeting, and as said committee is now ready to report, we deem it unnecessary to consider these matters.

J. T. WILSON,
A. N. DENTON,
W. R. BLAILOCK.

On motion, the report was received and the committee discharged.

The Section of "Surgery" was then called, with Dr. M. D. Knox, of Hillsboro, as chairman. The President announced that he had been informed by Dr. O. L. Williams, secretary of

the Section, that, owing to sickness in his family, he would not be able to be present, and appointed Dr. J. W. Miller to act as secretary of the Section.

Dr. W. R. Blailock, of McGregor, read a paper entitled "Some Cases of Osteomyelitis." After discussion by Dr. J. T. Harrington, of Abilene, and Dr. A. B. Gardner, of Bellville, closed by Dr. Blailock, the paper was received and referred to the Publishing Committee.

The Section on "Surgery" then closed, the Secretary calling attention to the fact that it was adjourning time, and an evening session was to be had. President Coleman thereupon said:

Owing to the importance of what will be done by the Association this evening, I can not refrain from again calling your attention to the fact that it is earnestly expected, and it is a duty you owe the profession of Texas, and to yourselves, to be present to-night and hear the report of that committee. You can have no conception of the amount of work that those men have done. It has been said, and I honestly believe it is true, that the action taken upon the report of that committee means more for the Association than any action that has been taken in years. It has been stated that whenever you elected a man president of the Association, and his time expired, he no longer felt any interest. I want to call your attention to the fact that this is a mistake. We have here to-day five ex-presidents who have, to a very great extent, sacrificed their business to be here with us. Now to the young men let me say, that the time will soon come when the duties and the responsibilities of this Association will pass from these older gentlemen upon your shoulders; and let us beg that you come here to-night and give your best thought and attention to this important subject. We expect to meet every one of you here promptly at 8 o'clock.

The meeting then adjourned until 8 o'clock p. m.

FIRST DAY—*Evening Session.*

Meeting called to order by the President at 8 p. m.

The special order, the report of the Committee on Ways and Means, appointed at the last meeting, was called. Dr. J. T.

Wilson, of Sherman, chairman of the Committee, prefacing the presentation of the report, spoke as follows:

MR. PRESIDENT AND GENTLEMEN:—I stand here to-night as one of the humblest and most obscure members of this Association, pleading with you to do something, to perform some act, to increase the usefulness of this body. You will remember the great agnostic, Ingersoll, cried out in the anguish of his soul, over the bier of his brother: "Hope sees a star, and can hear the rustling of a wing." I hope you will listen to what we have to say, that in the hereafter we may see the star of progress and hear the rustling of the wings of improvement in this Association by some act we may do to-night. I have prepared for you a report that I hope will contain some recommendations that will be for the usefulness of the Association. To the other four members I am greatly indebted for leaving their homes and their business, and meeting me and spending a whole day at work on this matter. Evidently there is something wrong with this Association. In a State with four or five thousand physicians, less than a hundred present here to-day. We ought to have at least an average of a thousand physicians in attendance upon this body. I stand here with no motive except that of patriotism, with no ambition except the love of my profession and a personal pride in the glorious Lone Star State. I want to say this Association should be the peer of any in the land, and there is no reason why it should not be if we will take the proper steps, unite in some harmonious action and go to work as we should. After the recommendations in my report are read I have some amendments to the organic law, to the constitution and by-laws, that I will submit—which these recommendations cover—I have some resolutions to submit also for your consideration. I have a draft of a bill to regulate the practice of medicine, that I will present; and if you will allow me, I will read all these things first, before any action is taken, and then let the body take what action it sees fit, as a whole or in detail.

Dr. Wilson then read the report of the committee, as follows:

To the President and Members of the Texas State Medical Association:

Your committee appointed at the last meeting of this Association at Dallas, to take into consideration the recommendation of the President in his message on the best means of increasing the membership, and thereby, the usefulness of the Association. Also to take into consideration the legislation required in regard to medical matters, and devise ways and means by which the ends sought may be reached, have had no simple nor easy task. The work has grown as the time passed, and

only those who have attempted it can appreciate how it expanded, and with what embarrassment the committee was hampered by the many recommendations that suggested themselves with the great difficulty of harmonizing them with the disorganized condition practically of the profession in Texas. The Texas State Medical Association does not command the respect of the profession and the laity, nor wield the influence that a great scientific State organization should. The great objects of the organization of this Association should be kept constantly before the professional mind "To organize the regular medical profession of the State in the most efficient manner possible, to encourage a high standard of professional qualification and ethics, to promote professional brotherhood, to labor for the advancement of State medicine, i. e., of public hygiene, of medical education, of medical jurisprudence and public institutions for the sick and infirm." Surely these are objects worthy of the earnest, honest labor of any man. One purpose, scientific investigation for the benefit of all should be its greatest aim. The benefits accruing in other directions and the influence for good is sure to follow. These things can only be accomplished by unity, harmony and industry, by a love of truth and unselfish devotion to principle. There are many things suggestive of the lack of interest in the usefulness of the Association.

We are unfortunately laboring under the disadvantage of seeing frequently the violation of the Code of Ethics, sometimes by men of note and prominence in their communities. Such disregard of established rules of professional conduct is greatly to be deplored and as demoralizing to those members who have no fixed ideas of their own, who are wavering and ready to sieze upon any excuse for their unprofessional acts, they are unfortunate examples to the younger members who have not learned, nor have any conception of the Code. When we come to investigate the subject of violation of the Code by the recent graduates, we should deal more leniently with them because a large majority of the schools teach not one word of ethics to their classes. How then is the student expected to know anything about the Code of Ethics? Sometimes he learns of it for the first time when he has himself broken the rules and is told of it by a brother practitioner. As this Association has adopted the Code of Ethics promulgated by the American Medical Association, every person who becomes a member of this organization subscribes to it, and we recommend that a more strict observance of it be required, and that it be the duty of every member of this body to report such instances of violation of it as may come under their observation, to the judicial council, and also that the medical schools of Texas be earnestly re-

quested to incorporate it in their curricula, and teach it to their classes during each session of the collegiate year.

One requirement of our organic law keeps away a number of worthy members each year, and that is the admission fee—five dollars—which, with the annual dues, amount to ten dollars. Many good members are not able to pay their expenses to and from the meetings and ten dollars to become a member. Instances have come within my own observation where physicians have attended the meetings and declined to become members, because they did not feel able to pay the ten dollars required.

Your committee respectfully recommend that the admission fee be abolished. The annual dues, in the opinion of a great number of physicians, are too great, and they think that if reduced to three dollars many additions would be made, sufficient to make up for the loss of reducing the fees that would not otherwise join, but it was the opinion of the committee and the Secretary of the Association, that if the annual dues are reduced, there would not be sufficient money collected to pay the current expenses; the committee, therefore, did not think it wise to recommend for the present, at least, a reduction in the annual dues.

Your committee most earnestly recommend that all politics of every description be eliminated, now and forever, from the sacred precincts of this great organization, that its government be purified by the broadest, most liberal and unselfish patriotism; that its character be elevated to an exalted degree, and no stain be allowed upon its escutcheon. Let no man be eligible to any office within its gift who stoops to the humiliating practice of electioneering, either directly or indirectly. To come to these meetings with an organized political following to control the nominating committee in the interest of certain men for various offices to be elected at present and even future meetings, is disgusting to those members who come here for the purpose of learning scientific truths and meeting their professional friends; is demoralizing to the interests of the body, even disorganizing, and clothes the elevation to what ought to be a dignified position of trust with questionable honor. Your committee recommends that the nominating committee be changed; as at present arranged, it is too large and unwieldy, consumes too much time, and is detrimental to the best interests of the Association. Let the limit be fixed at thirteen, and one member selected from each congressional district; they be selected by the other members from each respective district, and that five members constitute a quorum for the transaction of its buisness. The duties of the nominating committee shall be to nominate a president, three vice-presidents, a secretary and a treasurer, the regular quota of

delegates to the American Medical Association and the next place of meeting. It is recommended that they present two names for president, and the election be by the general body and by ballot. The remainder of the report might be adopted as heretofore.

No person should be elected to office who is not present at the meeting. The meeting should be on Thursday evening after the adjournment of the session, and their report should be made at the beginning of the Friday morning session.

All personal grievances, protests, charges and matters of an ethical or judicial character should be presented to the Secretary in writing, who should be required to read the same at a business session, when it should be immediately referred by the President to the judicial council without discussion. No discussion of these matters should be allowed before the general body.

We find that too much time is lost in having too much business and too little section work with too loose a rein upon established rules of debate and the presentation of scientific papers. It will only be upon the value of the esssays presented to the Association and the practical utility of the discussions by them, a pleasant way of conducting the Sections and making them attractive that the better element of the profession will become interested and sustain this body on a plane worthy of the great State of Texas, and of the noble calling of scientific medicine. The papers presented at these annual meetings should be short, practical and comprehensive. The reading of no paper should be allowed to occupy a longer time than twenty minutes, and if a paper should exceed that length of time in reading, the author should be required to present instead, a comprehensive abstract of the same to come within the specified rule. Discussions should be confined to five minutes, and it should be the endeavor to permit all who desire to do so to engage in these discussions; indeed, short practical sessions should be encouraged. All papers presented should be confined strictly to the art and science of medicine, and discussions confined to the subject before the house.

[illegible]

which time the President shall deliver his annual address, and that the Committee of Arrangements be requested to prepare for the full evening sessions of Section work, viz., Tuesday and Wednesday evenings.

If the present method of publishing the transactions be continued, the publication of papers should be limited to such as the publishing committee may deem of sufficient scientific interest to appear. There is, perhaps, no other State where the members, in many instances, have to travel such long distances to attend these meetings, and where so many difficulties are presented, making it quite expensive for many both in money and loss of time; they can not afford to attend unless rewarded with good section work and pleasant meetings.

As there is usually a stenographer present, have such discussions as would be of interest published. The expense of entertaining this Association to the local profession is often very great. By using the first two evenings in section work will very much reduce these expenses and be more profitable to the Association, and, it is believed, more acceptable to the profession, and if a banquet is desired let it be arranged for Tuesday evening after the address of the President; and all who desire it contribute — dollars, and if as many as thirty do so contribute, let a banquet be prepared; if less, then let there be no banquet. It is believed that this course would be advantageous to the Association.

Your committee would respectfully recommend the journalizing of the transactions as promising great benefit to the Association; we believe it entirely practicable. The volumes as at present published are seldom read, and lie undisturbed upon dusty book shelves of the members, in great many instances never opened after the first glancing through when received. If published in a journal they would be more likely to be read by the members, and many others. It would be the source of constant communication between the officers and members, and many others would receive the journal, which would be the means of attracting them to the Association. They would receive a copy at least once a month, keeping the organization constantly before them. They would get much additional matter and news items for the same price, increasing the inducement for becoming members. It would, no doubt, be a great aid in building up the county and district Associations. Some good journal could be selected, the transactions edited by the Secretary, turned over to the journal with a certain amount of money agreed upon, and a list of names. Every member whose dues to the Association are paid would receive a copy. It would cut down the expense, lessen the labor of the Secretary, it might dispense with the publishing committe, and would be the fur-

ther means of building up a first-class journal in the State of which the Association might be proud. If this recommendation should be adopted, the journal selected should be chosen for purely patriotic reasons, and solely in the interest of the Association. No bidding or scramble by the various journals should be allowed. No personal motives should be permitted to bias the decisions in any way in the matter of selecting a journal. A business contract should be entered into, and both sides required to abide by it.

Your committee would also respectfully suggest that in their judgment it will add greatly to the usefulness of this Association, and assist in its upbuilding, to give more attention to the organization of county and district Associations. Have a committee of five upon county organization. Encourage their formation and the sending of delegates to this Association, that such delegates shall present their certificates, endorsed by the Presidents and Secretaries of their respective societies, to the judicial council, who shall investigate their authenticity, and when found to be correct recommend their reception by the Association, and let them receive all the rights and privileges accorded them by the organic law of the Association.

In coming to the matter of legislation needed, we find much that should call for an emergency clause, but the problem in presenting them in such shape as would be generally acceptable, as would prove useful, and of having them enacted, is of the most difficult for solution. There are so many ideas that clash, so many widely divergent opinions on this subject,—like the present financial question that seems to be uselessly demoralizing this country,—there are so many opposed to any legislation at all, and would prefer to see State medicine and sanitary laws run wild, so many who have personal interests to subserve in the enactment of any law, that we should not wonder at the confusion that reigns in the legislative halls in regard to State medicine. When, in fact, if we would succeed we must bring together the best ideas, the most practical opinions, the least objectionable acts to present, unite upon them, make concessions where occasion requires, and march on in one solid phalanx to victory. We deeply feel the urgent need of an efficient State board of health, the great blessings it would bring to our people, lives it would preserve, the expense it would save, the suffering it would relieve, and the great advantage to this organization it might be.

It should have control of all the sanitary interests of the State, looking into the matter of epidemics, and receive the fullest reports from time to time in regard to the various diseases originating in different parts of the States; have laws enacted requiring records of vital and mortuary statistics kept in every county, and make special investiga-

tions of endemic and epidemic diseases. The almost daily practical demonstrations of the modern methods of effectually preventing the spread of contagious and infectious diseases should be ample evidence to convince us of the great necessity for a State board of health. Even the common diseases of bacterial origin that occur among us every day are greatly diminished under proper enforcement of health laws and sanitary protection. What an inestimable blessing to mankind if that dread scourge, tubercular-phthisis, could be banished from the world, and yet modern scientists have now become firmly convinced that this can be gradually done by requiring the rigid enforcement of sanitary rules laid down for that purpose. The public charities, great and small, the unfortunate of our race in every degree of their misery, the markets, the dairies, food inspection, public schools, prisons, etc., would all come under the supervision of a board of health. No one can deny that all these institutions need it; no one can gainsay the great amount of good that would result, and we do most earnestly call your attention to the urgent necessity of such an institution. In a recent conversation with our present efficient and able health officer, whose opportunities for observing the great needs of this institution have been more than most of us have enjoyed, informed me that he was heartily in favor of it. There is another law that seems to be equally urgent, if not more so. I have reference to a law regulating the practice of medicine in this State. We need most urgently an efficient and well organized board of medical examiners, with a good law to support them, to arrest, if possible, the great flow of ignorant pretenders, who, being driven out of nearly every other State in the Union by legislative enactment, are pouring into Texas and opening "doctor shops," ready in a few hours notice with their stock of wares and ignorance for business, prostituting a noble profession into a common trading mart, and finding here a fruitful field among a mixed population from every part of the world of gullible, skeptic, superstitious people, resist with all their power the passage of any law that would interfere with their occupation. We can not believe that with a just bill, which will accord to the homeopaths and eclectics their rights, there will be any very great difficulty in obtaining its passage. But the only hope is to first get the draft of a good bill, then let the profession unite upon it, obtain the co-operation of the eclectics and homeopaths, and work for it with a will. This bill should be simple, short and comprehensive. We have the draft of such a bill, which we will submit for your consideration, and respectfully recommend its adoption. The homeopaths and eclectics are allowed representation in proportion to their relative numbers in the State. We think it is just, will meet the present emergency, and one to which no reasonable objection could be

made. It is not possible to do anything that will please everybody, but the Association should harmonize on these things for the good of the whole people. Concessions will have to be made upon every hand. We should all agree upon one bill, unite our forces for the purpose of pushing it through to the end, and permit no other bill to come up for action. We would respectfully recommend the appointment of a campaign committee, with instructions to begin work at once, and with power to make reasonable concessions, to confer with a like committee from the State Association of the homeopaths and eclectics, and let these committees agree upon a definite plan of action, co-operate with each other, and carry on the work with activity and vigor in one sense, but in a quiet and inostensible way.

While we have pointed out the great and urgent necessity for a State board of health, we are well aware that if too many bills are presented to the legislature from this body at one time, it will be an excuse to defeat all.

A State board of health requires the creation of a new department, and will require an annual appropriation for its support. Legislators in these times of financial stringency and money agitation, are all averse to creating new departments and passing new laws requiring a permanent annual expenditure. The passage of the bill we here present, creating a State board of medical examiners, would be of no expense to the State, and would be self-supporting. It would hardly be considered a new law, but would be looked upon more in the nature of an amendment to an already existing law, and would be more likely to be enacted.

We therefore respectfully recommend that this body concentrate all of its energies upon the passage of a law to regulate the practice of medicine by the creation of a State board of medical examiners; and when that is accomplished, it can undertake with equal zeal and greater certainty of success the obtaining a board of health, and by this mode of action it is believed that the time is not far distant when all these necessary medical laws can be obtained, and Texas, with all its glorious history, with its vast extent of coast and country, and its great wealth of resources, will join in the modern march of progress.

Dr. Wilson then read the amendments to the Constitution and By-Laws recommended by the Committee. Also the resolutions presented by it, and the bill proposed regulating the practice of medicine in the State. He then said:

It was thought best at the meeting of this Committee in Dallas that we should correspond with the Presidents respectively, of the State

organizations of the homeopaths and the eclectics, and see, if possible, if they would be willing to co-operate with us. It is known, I think, by most members present, that both these schools are anxious to have a law of some kind passed. It is also known that it is impossible to pass a law without the co-operation of those schools. I have received letters from each one of these gentlemen, and I will here read same:

At the conclusion of the reading of the report, Dr. Wilson read letters from Dr. Milton J. Bleim, of San Antonio, late President of the State Homeopaths, and Dr. M. J. Daniel, of Honey Grove, President of the State Eclectics, each expressing a willingness to co-operate with this body with a view to securing the enactment of the necessary legislation along the lines pointed out in the proposed bill. Dr. Bleim, however, expressed the belief that nothing short of three State Boards of Health, one for each school, would be satisfactory. The tenor of both letters, however, was favorable to, and highly advocated, reforms in the existing medical laws of this State. It was admitted by all that no beneficial legislation could be expected unless the various schools united in advocacy of a single bill.

He further said:

You will see, gentlemen, the tone of the two letters. This, from the homeopathic school, insists upon three separate boards of registration. It is my opinion that we need a Board of Medical Examiners, and if we can't get such as we want it would be better to have three boards. We need something, and we know we can't get it unless we act together, and the only plan is to agree upon a bill, and go to work and push it through. If there is going to be any opposition, there is no use to push it. If you have two or three bills it will be an entirely useless expense to go to Austin with a bill.

On motion of Dr. Harrington, of Abilene, the report was received for discussion.

Dr. H. A. West moved that the discussion be postponed until to-morrow, but Dr. Wilson, stating that he could not be present at that time, the motion was withdrawn, and on motion of Dr. E. P. Becton, of Austin, it was decided to take up the report section by section for discussion and action, beginning with

the amendments to the Constitution and By-Laws, and they were read by Dr. Wilson separately, and acted on in the following order:

Amend Article 3 of the Constitution by adding: "Provided, that no person shall be eligible to membership in this Association who has not complied with the laws of Texas governing the practice of medicine now in force, or that shall be hereafter enacted:" the entire Article to read:

"Every regularly educated physician within the limits of this State, who is a graduate of a regular medical college in good standing, and who adopts and conforms to the Code of Ethics of the American Medical Association, shall be eligible to membership in this body, except those of the negro race. Provided, that no person shall be eligible to membership in this Association who has not complied with the laws of Texas governing the practice of medicine, now in force or that shall be hereafter enacted."

On motion the amendment was adopted.

Amend Section 2 of Article 7, by striking out after the words "annual dues of $5," the words "and the initiation fee of $5," the section, as amended, to read:

"Before admission to a seat in this Association, each delegate shall produce a certificate of delegation, duly signed by the Secretary of his Society, and pay to the Treasurer the annual dues of $5."

It was moved and seconded that the amendment be adopted, and after an extended discussion, participated in by Drs. A. B. Gardner of Belleville, A. N. Denton of Austin, D. B. Blake of Cuero, R. R. Walker of Paris, F. E. Daniel of Austin, H. A. West of Galveston, and Wilson of the Committee, the amendment was adopted.

Amend Article 5 of the By-Laws, by striking out the words "The fee of admission shall be $5 United States currency;" the article, as amended, to read:

"The annual dues of each member shall be $5 United States currency."

On motion the amendment was adopted.

Amend Article 9 of the By-Laws by striking out the word "county" after the words "from each," and adding "congressional district;" and by striking out the words "one day prior to adjournment," and by

adding after the words "report action," "at the beginning of the session on the morning of adjournment," and by adding: "Five members shall constitute a quorum for the transaction of business, and their duties shall be to nominate a President, three Vice-Presidents, Secretary, Treasurer, members of the Judicial Council, delegates to the American Medical Association, and places of meeting;" the article, as amended, to read:

"A Committee of one from each Congressional District represented shall constitute a Committee on Nominations for officers and places of meeting. Said Committee shall report action at the beginning of the session on the morning of adjournment. Five members shall constitute a quorum for the transaction of business. Their duties shall be to nominate a President, three Vice-Presidents, Secretary, Treasurer, members of the Judicial Council, delegates to the American Medical Association and places of meeting."

Moved by Dr. J. C. Loggins and seconded by Dr. A. B. Gardner that the amendment be adopted. After considerable discussion, participated in by A. B. Gardner of Belleville, J. C. Loggins of Ennis, H. A. West of Galveston, Harrington of Abilene, Douglass of Covington and E. P. Becton of Austin, the motion was carried and amendment adopted.

Amend By-Laws by adding another article, which shall be Article 12, and shall read as follows:

"No personal grievances shall be allowed to come before the general body for discussion. All questions of a personal character, including complaints and protests, and all questions on credentials, shall be submitted in writing, read by the Secretary, and referred by the President at once to the Judicial Council without discussion."

On motion the amendment was adopted.

Article 12 of the By-Laws shall be Article 13.

On motion this amendment was adopted.

Amend Section 6 of Article 12 (new No. 13) of the By-Laws, by adding after the words "shall thereupon," the words "without discussion," the section, as amended, to read:

"The Association shall thereupon, without discussion, vote upon the report of the Council by ballot, a majority deciding its adoption or rejection. The action of the Association shall be final, the Association claiming jurisdiction as to who shall constitute its members

and what punishment shall be inflicted upon those who violate its rules and regulations."

On motion of Dr. H. A. West the amendment was adopted.

Amend by making Article 13 of the By-Laws Article 14.

On motion the amendment was adopted.

Amend Article 13 (new No. 14) of the By-Laws, after the words "Association shall," by striking out "be restricted to the morning session," by adding "occupy not exceeding two and one-half hours of the first morning session, and not to exceed one hour of each other morning session," and adding after the word "afternoon," "and evening of the first two days;" the amended section to read as follows:

"The general meetings of the Association shall occupy not exceeding two and a half hours of the first morning session, and not to exceed one hour of each other morning session. The remainder of the morning sessions, the afternoon and first two evening sessions shall be devoted to the hearing of reports and papers and their consideration in the following sections."

On motion the amendment was adopted.

Amend By-Laws by adding another Article, which shall be Article 15, and be as follows:

"The reading of all papers before the Sections of this Association shall occupy not exceeding twenty minutes. All discussions shall be limited to five minutes, unless by unanimous consent of the Section, except the author of the paper, who shall have ten minutes in which to close, and no member shall speak to the same subject more than once without permission."

Dr. J. H. Sears moved to amend by substituting the words "thirty minutes" instead of "twenty minutes," which was seconded, and being put to vote, was lost.

Dr. J. C. Loggins moved to amend by adding after the words "twenty minutes," the words "except by permission," which, on being seconded and put to vote, was carried.

On motion, the amendment was adopted as amended.

Amend By-Laws by adding another Article, which shall be Article 16, which shall read:

"A Committtee of three members shall be appointed by the President on the first day of each meeting, whose duty it shall be to select a Chairman and Secretary for each Section to serve during the next

succeeding year. This Committee shall also select the name of some subject for each Section, a member to present the subject, and also one to open the discussion of the same. These officers shall hold their offices until the close of the proper business of the annual meeting next succeeding their election, and until their successors are appointed. This Committee shall present its report to the Association on the morning of adjournment, after the report of the Nominating Committee."

Dr. H. A. West moved to amend by providing that the committee should consist of the President and Vice-Presidents of the Association.

Dr. E. P. Becton moved to amend by providing that in case of vacancy in the committee it should be filled by appointment of the President.

Both amendments were accepted by Dr. Wilson as a part of the original amendment offered by the committee, and upon motion, the amendment, as thus amended, was adopted.

Amend Article 13 (new No. 14) of the By-Laws by striking out the following clause: "The chairmen and secretaries of the several sections shall, like other officers of the Association, be nominated by the Nominating Committee. They shall hold their office until the close of the proper business of the annual meeting next succeeding their election, and until their successors are appointed."

On motion, the amendment was adopted.

On motion of Dr. West, the amendments already adopted section by section, were adopted as a whole.

Dr. A. B. Gardner, of Bellville, then moved that the remainder of the report of the committee be adopted as a whole.

After some discussion, it being desired to discuss other subjects in the report, Dr. West moved as a substitute that further consideration of the report be taken up the first thing the following morning, which was adopted.

Dr. Wilson then offered the following resolution:

"WHEREAS, It has been published by Dr. J. O. Williams, of William Penn, Washington county, Texas, that he performed the first three symphysiotomies performed in the United States: and

[illegible] There has been some controversy over the subject: and

"WHEREAS, If Texas deserves the honor of this priority, it is the duty of this Association to establish the fact beyond the peradventure of a doubt; therefore, be it

"*Resolved*, That a committee of three members be appointed by the President, and requested to make a thorough investigation of the subject, and establish the falsity or truth of the claim, that Dr. Williams may enjoy the honor of the same."

Which resolution was, on motion, adopted.

The chair then stated that he had had some correspondence with Dr. Williams upon that subject, and Dr. Williams regretted that he would not be able to attend this meeting; and asked the privilege to think over the matter and wait until next day to announce the names of the committee.

Dr. J. W. McLaughlin then offered the following resolution:

WHEREAS, There is no State board of health in Texas, and the efforts that have heretofore been made by the State Medical Association, to secure the establishment by State authority of such board, have been unsuccessful because of the expense to the State of maintaining its international quarantine, that cost two hundred and ten thousand dollars for the four years' administration of Governor Hogg; and

WHEREAS, The Federal government is willing to relieve the State of the expense and management of her international quarantine, and to buy from the State her quarantine property; be it

Resolved by the State Medical Association, That a committee of this body be appointed by its President to memorialize the legislature of the State to transfer the international quarantine that is now operated by the State to the Federal Government, and that a State board of health be then created to care for matters of internal quarantine, public health, and to establish a bureau of vital statistics.

Dr. J. C. Loggins moved the adoption of the resolution, and the same was discussed at length by Drs. F. E. Daniel, of Austin; J. H. Sears, of Waco; J. C. Loggins, H. A. West, of Galveston; M. D. Knox, of Hillsboro, and W. R. Blailock, of McGregor; after which a vote was taken and the resolution adopted.

The meeting then adjourned until 9 o'clock the following morning.

SECOND DAY—*Morning Session.*

Meeting called to order by President P. C. Coleman at 9 o'clock a. m.

Invocation by Rev. J. Morgan Wells, of the First Baptist Church.

The Special Committee on Ways and Means, appointed at the last meeting, through its chairman, Dr. J. T. Wilson, presented the bill to regulate the practice of medicine in the State, and recommended it to be presented to the legislature for enactment, which was read by Dr. Wilson as follows:

An act to repeal title eighty-two of the Revised Statutes of the State of Texas and to pass in lieu thereof this act. To license physicians and surgeons, and to regulate the practice of medicine, and to punish persons violating the provision thereof in the State of Texas.

ART. 1. Be it enacted by the legislature of Texas, that title LXXXII, articles 3777, 3778, 3779, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 3787, 3788, 3789, of the Revised Statutes of Texas, be amended so as to read as follows:

ART. 2. There shall be organized for the State of Texas a board of medical examiners to be styled the board of medical examiners of the State of Texas. Said board to consist of twelve members: six from the regular profession, four from the homeopathic system of medicine, and two from the eclectic system of medicine; whose term of office shall be two years or until their successors are appointed and qualified; provided, that no member shall be a professor or teacher of any medical school.

ART. 3. The said board shall consist of men learned in medicine and surgery, and shall be appointed by the Governor on the 15th day of May following inauguration, from a list of names twice the number to be appointed, to be furnished him and recommended by the Texas State Medical Association, the Homeopathic Medical Society of the State and the Eclectic Medical Society of the State. Vacancies occurring in such board for unexpired terms from any cause shall be filled from the list already in the hands of the Governor.

ART. 4. The members of said board shall qualify by taking the usual oath of office before the county judges of the county in which they respectively reside. The officers of said board shall be a president and secretary; the latter shall also act as treasurer. Said officers to be members of and selected by the board.

In case of the absence of the president and secretary, a president and secretary pro tem. shall be selected from those present by a majority vote; provided, in case of death or resignation of either or both of the aforesaid officers, their places shall be filled for the unexpired term at the next regular meeting ensuing by a majority of the votes cast.

Regular meetings of the board shall be held at least twice a year, at such times and places as the board may, from time to time, determine. Due notice of said meetings shall be given by publication in such papers as may be selected by the board. Special meetings may be held upon call of the president and any three members. Five members of the board shall constitute a quorum.

The board may prescribe rules, regulations and by-laws for its own proceedings and government, and for the examination, by its members, of candidates for the practice of medicine and surgery.

ART. 5. It shall be the duty of said board, at any of its meetings, to examine all persons making application to them who shall desire to commence the practice of medicine or surgery in this State, and who shall not, by the provisions of this act, be exempt from such examination; and when an applicant shall have passed a satisfactory examination before the board in session, the president thereof shall grant such applicant a certificate to that effect.

A fee of $15 shall be paid to the secretary of said board by each applicant before such examination is had.

In case any applicant shall fail to pass a satisfactory examination, he or she shall not be permitted to stand any further examination within the next six months thereafter, but may appear again for examination at the next regular meeting if it does not come within the six months; nor shall he or she have again to pay the fee prescribed as aforesaid. Provided, however, no applicant shall be rejected upon his adherence to any particular school of medicine or system of practice, nor on account of his views as to the method of treatment and cure of disease; and provided further, that when in the opinion of the president of the board any applicant has been prevented from appearing before the board at a regular meeting, the president shall appoint a committee of three members who shall examine such applicant, and may, if they see fit, grant him or her a temporary certificate which shall have the same force and effect as though granted by the full board, until the applicant shall have the opportunity to appear before the said board at its next regular meeting; when, if the applicant fails to appear for examination, the president of the board shall have authority to revoke said certificate.

No applicant will be admitted to examination who can not submit satisfactory evidence that he or she is more than 21 years of age, and

is of good moral character, who has not received a degree from a regular chartered medical school requiring sufficient preliminary education and attendance upon at least three courses of lectures of not less than six months each, and in three different calendar years.

The board shall have power to revoke any license granted by them, and to cancel the registration when upon satisfactory proof it shall appear that any physician thus licensed has been guilty of gross immoral conduct or convicted of a crime.

ART. 6. The board of examiners shall keep a regular record of its proceedings in a book kept for that purpose. Said register shall show name, age, place and duration of residence of each applicant, the time he or she spent in medical study in or out of medical schools which have granted said applicant any degree or certificate of attendance upon lectures in medicine; said register shall also show whether said applicant was rejected or licensed under this act, and shall be *prima facie* evidence of all matter contained therein.

ART. 7. From and after the passage of this amendment, the following persons, and no others, shall be permitted to practice medicine or surgery in this State: 1. All those who have been legally licensed, and whose diplomas or certificates have been recorded by the clerk of the district court of the county in which he or she resides prior to this act. 2. All persons who shall hereafter receive certificates from the board of medical examiners of this State as above provided for, and who shall also in all other respects have complied with the provisions of this act.

ART. 8. Any person shall be regarded as practicing medicine or surgery within the meaning of this act who shall profess publicly to be a physician or surgeon, and shall offer for practice as such, or for those needing medical or surgical aid and shall charge or receive therefor money or other compensation directly or indirectly.

This act shall be so construed as to include men not pretending to be physicians who offer for sale publicly on the streets or other public places remedies recommended for the cure of diseases, but this act shall not apply to any commissioned officer or contract surgeon of the United States army or navy or marine hospital service in the performance of their duties as such.

ART. 9. The applicants shall be examined in the following branches: Anatomy, physiology, chemistry, materia medica, therapeutics, hygiene, pathology, practice of medicine, surgery, including diseases of the eye, ear, nose and throat, obstetrics and gynecology. From this list questions shall be prepared for all these subjects, which at any examination shall be the same for all candidates except that in therapeutics, practice and materia medica all the questions submitted to

any candidate shall be chosen from those prepared by the members selected by the candidate, and shall be in harmony with the tenets of that school to which the candidate belongs.

ART. 10. The fund realized from the fees aforesaid shall be applied by the board: 1. To pay the necessary expenses of the members in attendance upon these meetings. 2. To making a reasonable compensation to the President and Secretary. 3. If there be any left it shall be applied to compensate other members equally for their loss of time, etc.

ART. 11. Before any person who obtains a certificate under the provisions of this act may lawfully practice medicine or surgery in this State, he or she shall cause the said certificate to be recorded in the county clerk's office of the county in which he or she offers to practice. The certificate shall be recorded by the clerk of the county court in a book to be kept for that purpose, which shall be properly indexed. The clerk shall receive from the applicant the fee of $1 for recording this instrument.

ART. 12. Any person who shall practice medicine or surgery in this State in violation of the provisions of this act shall be fined not less than $50 nor more than $500 for each offense, or by both fine and imprisonment, as may be determined by the court before whom he or she may be tried; and it shall not be lawful for him or her to recover by action, suit, motion, or warrant any compensation for services which may be claimed to have been rendered by him or her as such physician or surgeon.

ART. 13. That title 82 of the Revised Statutes of Texas, and articles 3777, 3778, 3779, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 3787, 3788 and 3789 of said title be and the same are hereby repealed, and all laws and parts of laws in conflict with this act be and are hereby repealed.

ART. 14. And, whereas, there is in force no law adequately providing for the licensing of physicians and surgeons and regulating the practice of medicine, be it resolved that an emergency exists for the immediate passage of this act, and that it shall take effect and be in force from and after its passage.

Dr. Brittain, of Arlington, moved that that portion of the Committee's report relating to said bill be adopted as a whole, which was seconded.

Dr. E. A. Woldert, of Tyler, stated that as the representative of the East Texas Medical Association, he had the draft of a bill agreed upon and recommended by that body, which he desired to read before the meeting and offer as a substitute for the bill

presented by the Committee. It was moved and seconded that he be requested to read his bill, which was carried, and the bill was read by Dr. Woldert.

Dr. E. P. Becton moved that a special committee of five be appointed, to whom should be referred the bill presented by Dr. Wilson's committee, and all other bills offered, and that it should be the duty of that committee to carefully consider all such bills, to open correspondence with the members of the Association, and when the next Legislature meets, go before that body and try to get it through; which motion was seconded.

Dr. A. N. Denton moved as a substitute that Chairman Dr. Wilson, of the Committee, be requested to read his bill section by section, to be acted upon, which was seconded, and being put to vote, lost.

After a considerable discussion by Drs. Becton, Daniel, Brittain, Walker, York and others, it was moved to table Dr. Becton's resolution and seconded. The Chair being unable to decide the vote, called for a rising vote, and the motion was carried by a vote of 44 ayes to 37 nays.

Dr. Woldert then moved that the Chair appoint a committee of five to take the two bills under consideration and bring them before this Association at some future time during the week for adoption or final rejection, which motion was seconded.

Dr. Brittain moved to table the motion, which was seconded and carried.

Dr. Denton moved that the bill as presented by Dr. Wilson be adopted as a whole, and that the same Committee be appointed to go before the Legislature and pass it through, which was seconded.

Dr. J. H. Sears moved as an amendment to eliminate all that portion of the report relating to the homeopaths and eclectics.

Dr. Douglass suggested that it was necessary that they should be included in the bill on account of a clause in the State Constitution prohibiting discrimination against any school of medicine.

Dr. Brittain moved to table the motion of Dr. Sears.

Dr. Becton raised the point of order that to table the motion

of Dr. Sears would also table the motion of Dr. Denton, for which it was a substitute. Dr. Sears insisted that his motion was not made as a substitute, and the Chair ruled that Dr. Becton's point of order was not well taken.

A vote being called on the motion to table Dr. Sears' motion, the same was carried.

The vote then recurring on Dr. Denton's motion, the same was carried.

Dr. Wilson then read the following resolutions, presented by the Committee for action by the Association, and they were taken up and acted upon as follows:

Resolved, That the Texas State Medical Association hereby renews its unconditional allegiance to the original Code of Ethics of the American Medical Association.

Resolved, That the Association again express its highest disapprobation of the practice of some of its members, and of members of County and District Societies in affiliation with the State body, of consulting with sectarian physicians, as being in derrogation of the dignity of the profession, and in violation of the letter and spirit of the Code of Ethics of the American Medical Association. Especially to be condemned is such action when it tends to disobey our supreme law; to bring into disrepute the regular medical profession: to cause ill feeling among its individual members: to effect disruption in already formed bodies, and, finally, to depress the spirit of organization by fostering not liberty, but libertinage in the methods of medical practice.

Resolved, That the Texas State Medical Association enforce at all times, and to its fullest extent, the true spirit of the Code of Ethics; that it pass censure on, or expel if necessary, from its list of members, anyone of these found guilty of non-professional conduct: and that it likewise censure, or sever its connection with, entirely, any of its affiliated County or District Societies that fail to uphold or enforce also the aforesaid Code of Ethics.

Resolved, That the neglect in enforcing the supreme law of the profession by the Texas State Medical Association tends to spread the tendency to practice questionable methods by its members, and, eventually, to a loss among the same of all interest in the social and scientific welfare of the Association.

On motion of Dr. Brittain said resolutions were adopted.

Resolved further, that it is the sense of this Association that the medical schools of this State be earnestly requested to teach the Code

of Ethics to their classes every session, and impress upon them the importance of its strict observance.

On motion the resolution was adopted.

Resolved, Tnat a committee of five members be appointed upon county organization, and to be known as the Committee on County Societies. The duties of this committee shall be to encourage and foster the organization of county societies, and where it is impracticable in some of the sparsely settled counties, to induce several counties to unite for the purpose and make an effort to enlist every available physician eligible to membership within its jurisdiction to become a member. Endeavor by correspondence to keep informed in regard to all county societies in the State: to interest said societies in the State organization, and to request each one to send its full quota of delegates each year. This committee shall have power to appoint such sub-committees as they may deem necessary to aid them in their work, and shall be expected to make an annual report to the Association.

On motion the resolution was adopted.

Dr. Wilson read a resolution relative to the appointment of a campaign committee to take charge of the bill to regulate the practice of medicine, but the matter having been heretofore disposed of, no action was had upon the matter.

Dr. Wilson then brought up the subject of journalizing the transactions, as recommended in the report, and after some remarks moved that the transactions of the Association be journalized, and that a committee of three be appointed to take charge of their publication, which motion was seconded.

Dr. West moved as an amendment that action upon the matter be postponed for the present, calling attention to the importance of various subjects as affected by the proposed motion, and the necessity of avoiding hasty action.

Dr. Denton moved as a substitute that a committee of five be appointed to consider the matter and report to the Association next morning at 9 o'clock.

The substitute was accepted by Dr. West and carried.

Dr. Wilson then said:

Now, Mr. President, the duties of this committee have terminated. I beg to thank you, sir, and those present, for the kind consideration

you have given us. You do not know the labor, the responsibility, the anxiety and the sleepless nights this committee have had. If there is any good that will come out of it, it is due to those representative members of the Association, Dr. Thomas. D. Wooten, Dr. J. Y. F. Paine, Dr. Bacon Saunders and Dr. M. D. Knox. They are the men to whom is due all the credit. You do not know how much relieved I am. I thank you, gentlemen, for your patient attention.

Dr. A. M. Douglass moved that the thanks of the Association be tendered the chairman and members of the committee for the efficient and laborious manner in which they have discharged the duties imposed upon them, which was seconded and carried unanimously.

The Judicial Council presented a report on applications for membership, which was, on motion, adopted.

The Section on "Medical Jurisprudence" was then called. Dr. T. J. Bennett, chairman, not being present, Dr. T. B. Bass, of Terrell, was appointed chairman.

Dr. F. E. Daniel, of Austin read a paper entitled "A Plea for Reform in Criminal Jurisprudence." Twenty minutes having expired before the paper was completed, he was, on motion, given time to finish its reading, after which the paper was received and referred to the Publishing Committee. It was discussed by Dr. J. H. Sears, of Waco, and Dr. N. B. Kennedy, of Hillsboro.

Dr. W. R. Blailock, of McGregor, presented the following resolution, which was, on motion, adopted:

Resolved, That the committee appointed to memorialize the Legislature in regard to the regulation of the practice of medicine be requested to draft and secure the passage of a bill providing for the taking of depositions in cases where the knowledge of the physician or surgeon is acquired by reason of professional services rendered to persons who are wounded in affrays, etc. In the framing of this bill we suggest that they secure the services of a lawyer familiar with the rules of evidence, and frame such a bill as will allow the physician or surgeon to give his evidence by deposition immediately after the securing of such information, such depositions to be used as evidence before grand juries and trial courts in lieu of the personal attendance of any such physician or surgeon. It is not suggested nor required that the

physician or surgeon be exempted from personal attendance on trials, etc., where his information is acquired by seeing such affray or violation of law, but only in such cases where his knowledge is acquired by responding to calls to relieve the wounded.

The Section on "Gynecology" was called. The chairman being absent, Dr. J. S. Letcher, Secretary of the Section, was appointed to preside pro tem, and Dr. E. D. Capps, of Fort Worth, to act as Secretary. The report of Chairman Dr. Bell was read by Dr. Capps, and on motion, same was received and referred to the Publishing Committee.

Dr. T. A. Stoddard, of Pueblo, Colorado, read a paper on "Some Mistakes in Surgical Gynecology," and the same was, on motion, received and referred to the Publishing Committee.

President Coleman than spoke as follows:

GENTLEMEN:—Only the profoundest convictions which have forced themselves upon me lead me to do what I am about to do, as presiding officer of this body. What I shall say does not reflect upon any member of this Association. I believe you are here with a loyal devotion to the cause of scientific medicine in Texas, and I give every man credit for what I claim for myself, honesty of conviction, and I believe you are here in a sense of the purest motives, but you know, as presiding officer of this Association, my mouth is closed, so far as taking a part in anything that shall come up before us. I mean by that, that it is not expected that I should do so, and only unusual circumstances justify a presiding officer in saying anything. I want to ask your indulgence for a moment to enter my protest, as one of the humblest of individuals, against a part of the action taken by the Association this morning.

I would for no cause do anything to reflect upon members of the committee, but I wish to enter a protest, a vigorous protest, against the allusion to the measures which have been used, so far as seeking to obtain office is concerned. What is the natural conclusion? That I, that Dr. Becton, that Dr. Sam R. Burroughs, and that other gentlemen, who have been honored with the presidency of this Association, have resorted to such measures. I do not mean to say that they accused us of it, but when it goes out to the world that that paper was read before this Association, it is the natural inference that such measures have been used to obtain these offices. I want to say that as I expect to enter into judgment for every thought, and for every word and for every deed, if my record was as clear on all other matters as it

is on that, I will have a great deal better record than I expect to have. Never have I spoken, never have I solicited any gentleman to support me for that position. It came to me unsolicited, and of course I esteem it as the greatest honor of my life.

In regard to that portion of the report relating to the board of medical examiners, I wish to place upon record my unalterable opposition to any recognition of the homeopathic and eclectic schools upon said board. In my opinion, if we can not get a board without giving them representation, it is better to do without one.

The chair announced the committee provided for in the resolution adopted the preceding evening, to investigate the claim of Dr. J. O. Williams to priority in the operation of symphysiotomy as follows: Dr. J. W. McLaughlin, of Austin; Dr. J. F. Y. Paine, of Galveston, and Dr. T. J. Bell, of Tyler. Also committee on question of journalizing transactions as follows: Drs. A. N. Denton, W. R. Blailock, Dr. I. E. Thomas, Sam Cunningham, and F. S. White.

Association adjourned until 2:30 p. m.

SECOND DAY—*Afternoon Session.*

Association called to order by the President at 2:30 p. m.

The Section on "Gynecology" was resumed, and Dr. R. R. Walker, of Paris, read a paper on "Conservatism in Gynecology," which was received and referred to the Publishing Committee.

The paper was discussed by Dr. A. E. McMahon, of Marshall, and Prof. Thos. J. Crofford, of Memphis, Tennessee, who was, on motion, accorded the privileges of the floor.

The Judicial Council reported on applications for membership, and on motion, the report was adopted.

Dr. B. F. Brittain read a paper on "Urethral Caruncle," which was, on motion, received and referred to the Publishing Committee.

Dr. Capps, Secretary of the Section. read a paper by Dr. P. Michenard, of New Orleans, on "Case of Plural Ectopic Gestation, Rupture, Operation, Recovery, and Subsequent Uterine Pregnancy."

On motion, the same was received and referred to the Publishing Committee, and the thanks of the Association tendered the author.

The Section on "State Medicine" was called. The chairman being absent, Dr. J. H. Sears, of Waco, was appointed to preside pro tem. Dr. I. N. Suttle, of Corsicana, Secretary.

Dr. F. S. White, of Terrell, read a paper on "State Care of Insane, Epileptics, Inebriates and Habitues of Narcotics." The paper was on motion, received and referred to the Publishing Committee, and discussion followed by Drs. A. N. Denton, A. B. Gardner, E. D. Capps, H. L. Tate, and closed by Dr. White. Dr. Tate opened his remarks by moving that a committee of five be appointed to memorialize the legislature looking to carrying out of the objects mentioned in the paper of Dr. White, of which committee, Dr. White should be chairman. Upon the closing the discussion, this motion was taken up and carried.

Dr. Joseph A. Mullen, of Houston, read a paper on "Medical Education—its Defects and Perversions," which was on motion, received and referred to the Publishing Committee.

The Section then closed, and the Section on "Ophthalmology and Otology" was called, with Dr. John O. McReynolds of Dallas, chairman, and Dr. H. L. Hilgartner, of Austin, Secretary.

After report of the chairman, Dr. Hilgartner read a paper on "The Eye in its Relation to Health," which was on motion, received and referred to the Publishing Committee. Upon discussion by Dr. J. S. Wooten, Dr. J. A. Mullen, closed by Dr. McReynolds at the request of Dr. Hilgartner, who was obliged to leave before the discussion was finished.

The chair announced that Dr. Henry Power, of London, had promised to send a paper on "Methods of Treatment of Secondary Cataract," but the same had not been received in time to be

read, but would be read by caption, adding a brief discussion upon the subject.

The paper of Dr. E. J. Neathery, of Van Alstyne, on "Eye Surgery by the General Practitioner," was read, in his absence, by Dr. R. E. Moss, of San Antonio. On motion, it was received and referred to the Publishing Committee, and discussed by Drs. M. D. Knox, W. J. Lane, J. O. McReynolds and H. L. Tate.

The Section then closed for the time, and the Judicial Council presented a report recommending admission of new members, which was on motion, adopted.

The President then announced as the committee to memorialize the legislature, as provided by the motion of Dr. Tate, as follows: Drs. F. S. White, of Terrell; H. L. Tate, of Lindale; A. N. Denton, of Austin; E. D. Capps, of Fort Worth, and A. M. Douglass, of Covington.

The Association then adjourned to meet at City Hall at 8 o'clock p. m., to hear annual address by President Coleman, as follows:

THE PRESIDENT'S ADDRESS.—P. C. COLEMAN, M. D., COLORADO, TEXAS.

In obedience to the Constitution of the Texas State Medical Association, which requires the President shall deliver an annual address, I am before you, ladies and gentlemen, on this occasion. From the fact you have been invited here this evening, to hear what we have to say, the inference necessarily follows, you expect to hear something which will instruct, or at least, entertain you. I hope you will not be wholly disappointed. In order to allay any fears some of you may have that your patience will be taxed to listen to an address upon some abstruse, strictly medical subject, I will say now in the beginning, while I shall speak to you of medicine and of doctors, I shall steer clear of technical phraseology. One of the masters in English literature uses this language: "Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want

downright facts at present: more than anything else." I shall remember this language in speaking to you this evening.

It is no reflection on the intelligence of this cultivated audience, to ask your indulgence for a few moments to define the terms medicine and physician, as they shall be used on this occasion, in such a way, we hope, as shall in some degree, at least, interest those whose kindly presence lends grace and encouragement to this, our annual session.

MEDICINE: "The art of preventing, curing or alleviating disease, and remedying, as far as possible, the results of violence and accidents." It is evident then if this definition be true, that the science of medicine cannot be a sect or school, any more than the science and art of navigation or agriculture. It is equally clear that physicians who study and practice the science and art of medicine are not allopaths, homeopaths, or electropaths. Unfortunately, the general public does not realize this, and the majority of medical men are called allopaths, simply because they are not homeopaths. This is not true. Allopathy means "the employment of medicines to produce effects different from those resulting from disease. Physicians do not subscribe to a law of contraries or dissimilars (allopathy) as the hemeopaths do to a law of similars." This language was used by a gentleman recently on an occasion similar to the one which brings us together this evening and is very true. Physician, as used, refers to the regular practitioner, who follows no clique, sect, pathy or ism.

So far as I know, there may be those present who honestly differ from us in this definition as given, and if so, we have no controversy with them, but will say, however, as a student of the history of medicine, if any great discovery, any grand achievement, in the medical world, which stand like signals upon the mountain tops, have come from other source than the regular profession, we have never heard of them. This is for those who are honest in their convictions. Now for the crowd calling themselves doctors, strangers to honesty, to honor and to every pure emotion of the heart, who for the sake of money, hesitate not at any kind of deception or the performance of crime, we will pay our respects in the "fewest, plainest," possible words. You will remember Dante in his great epic poem, Inferno, places Brutus in the fourth and last round of the ninth circle of hell. Why? He betrayed his friend,—guilty of ingratitude, "that which is is abhorred by God and man." If Dante lived at the present day, and beheld the deeds of this crowd his genius would create for them as the only suitable place, one more circle in the fourth and last round of hell, beyond and far below the one now occupied by Brutus.

In these times we often hear of the wonderful strides in medicine, all of which is true, but we should not forget, nor affect to despise as

we sometimes do, what we owe the early fathers, and those who have gone before, coming on down to our own day. In their powers of observation they were our equals if not superiors.

Medicine, physics and metaphysics, have been sisters from the beginning, and have traveled side by side, since the beginning. When philosophy explained inexplicable phenomena upon the hypotheses of witches diabolism, no wonder that physicians should resort to magic, and amulets, the king's touch, appeals to dead men and women, canonized by the church as saints, and to every abomination in the animal, vegetable and mineral kingdoms. When, in the beginning of the seventeenth century, the Bishop of Chester and the Bishop of Llandaff each was worrying himself, and his diocese in publications going to prove that there were people in the moon, and that we earthites could find means to visit them in flying machines, "large enough to carry divers men, and commodities for traffic," no wonder surgeons applied their dressings, not to the wound, but to the instrument that made it. When credulity and superstition lorded it over mankind, is it to be regarded as strange that they lorded it over the doctor portion as well? The wisest judges of the law taught, from their own observation, that the wounds of a murdered man, long dead, would bleed afresh upon the approach and touch of the murderer, and the trial by fire or forcing the suspected criminal to run blind fold and barefooted along a path strewn with plates of red-hot iron, the verdict being, no burn, no guilt, and vice versa, was a common expedient. Physicians were as superstitious and credulous as other people, and no more so. These are well established historical facts. Does medicine suffer by the comparison?

Such things existed until the coming of the inductive method, which completely revolutionized the face of philosophy, and the whole family of the sciences, placing medicine with the other positive knowledges upon a sure foundation.

You are aware, doubtless, that the offices of priest and physician were originally one, and filled by the same individual. That this is true, the following old time advertisement will sufficiently show:

"Wanted for a family who have had bad health, a sober, steady person in the capacity of doctor, surgeon, apothecary and man mid-wife. He must occasionally act as butler, and dress hair and wigs. He will be required sometimes to read prayers, and to preach a sermon every Sunday. A good salary will be given."

If he performed faithfully and efficiently all these offices he was entitled to a most munificent salary.

"Those who at this day would restrict the definition of the word 'physician' to terms descriptive of a mere healer of the sick or manipulator of broken bones, have a very inadequate conception of the place

and function of the profession. I have no intention of underestimating this most exigent and constant, if not most important element of our work. It is of unsummed priceless benefaction to mankind every day of every year. All over the world we are without ceasing, quieting pain, repairing injuries, restoring lost harmonies, and saving multitudes from premature death. This the most careless see. But in addition to this we are doing a work if less apparent to the senses, is of immeasurably more important bearing upon the physical, social and moral destiny of mankind. We are educating the age."

"This is no doubtful assumption. Physiology, hygiene, questions of quarantine and sanitary regulations, are rapidly coming to the front in the interest of the thoughtful even among non-professional men. It is everywhere in process of recognition that health, the first of blessings, is a subject of law. The most recondite resources of the highest mathematics are taxed to supply formulæ for life averages and contingencies. And here the laity must come to us for data and direction. It is the subject we deal with most constantly and most intimately. We hear nearly every murmur of discontent, and are summoned to treat almost every lesion. The confessional of pathology—the only confessional where the truth is always told, or if not told is known—is not shut day or night. The woes of the world come to our ears. We are the final repository of its sorrows and its sins. What a revelation of the sad side of humanity would a combined experience record of the doctors make!"

"Already we are called to give the verdict of science upon the most vital questions that concern and interest men. You cannot have a murder trial without half a dozen medical gentlemen upon the witness stand. I am sorry for the sake of science that as a rule they coincide so imperfectly! It is hardly too much to say you cannot hang a man unless a doctor consents to it. It is certain that you cannot shut up a recalcitrant lunatic except upon a doctor's commitment. And once in durance all the habeas corpus in the land will not avail against his writ of ne exeat. If it be sought to deprive a man of the use and disposal of his property—a thing prohibited by our most fundamental law—it can be done under a commission of de lunatico inquirendo, if the doctor says yes. If it be desirable to break the last wish and will of some mortal who has passed into silence, it cannot be done if the doctor says no. So you see, my friends, that we hold the fullest hand in the game of life, and are as a class and profession the governing factors in the social activities of the times, with judges and lawyers and jurymen, jurisprudence, legislation, philosophy, and every form of social inquiry and speculation going to school to the doctors. We are, in a sense applicable to no other class of men, educators of public opin-

ion. But all things bring responsibility, and the greatest obligation to prepare wisely to fill this great office. It is more than judicial. It is in effect, in general results, that of judge and jury in one."

With a full appreciation, and all due respect to the progressive era in which we live, I must say from what I have been able to learn from a study of the question, that the time when the public had the proper conception of the relation of the physician to the community existed in our country prior to the late war, owing, doubtless, largely to the character of the physicians themselves. In those days practitioners of medicine were for the most part dignified, courteous gentlemen, whose intellectual attainments and excellent judgment awarded them a high place in the esteem of the community, seldom equaled and never surpassed. There are living illustrations of the truthfulness of this statement in the persons of some who are still identified with this association; and have we not been impressed with the accuracy of this statement when brought in contact with them? Yes, I always lift my hat to the old Southern country doctor. I say Southern because my observation has been confined to this section, and I am very grateful that they did not all pass from the stage before I came. Yes, all honor to the country doctor. Time will not suffice me to even mention the names of those who have by their genius placed American medicine and surgery upon the topmost pinnacle of the science.

The following touching tribute to the country physician by a recent writer will recall to some in this audience a familiar scene in the old home in Kentucky, Tennessee, Virginia or elsewhere: "Our country physicians have so many hardships, so many interruptions, so many annoyances, I am glad they have so many encouragements. All doors open to them. They are welcome to mansion and to cot. Little children shout when they see them coming down the road, and the aged, recognizing the step, look up and say: 'Doctor, is that you?' They stand between our families and the grave, fighting back the troops of disorder that come up from their encampment by the cold river. One day there was a dreadful foreboding in our house. All hope was gone. The doctor came four times that day. The children put away their toys and walked upon tiptoe, and at the last sound said 'Hush!' How loudly the clock did tick, and how the banister creaked, though we tried to keep still. That night the doctor stayed all night. He concentrated all his skill upon the sufferer. At last the restlessness subsided into a calm, sweet slumber, and the doctor looked up and said, 'The crisis is passed!'" When propped up with pillows in the easy chair she sat and the south wind tried to blow a rose leaf into the faded cheek, and the children brought flowers—the one a red clover top, the other a violet from the lawn—to the lap of the convalescent.

And as we helped the old country doctor into his gig we did not notice that the step was broken, or the horse stiff in the knees, and we all realized for the first time in our life what doctors were worth. Encourage them. They deserve every kindness at our hands."

In McClarens' inimitable book, "A Doctor of the Old School," the character of McClure is not an impossible one. Nor is it confined to the highlands of Scotland. All over this land of ours has the counterpart of McClure lived and labored in the personages of our country doctors.

Many scenes through which they passed have been at times the most dramatic the world has ever witnessed. In 1818 in the wilds of the almost primeval woods of Kentucky there was enacted a scene, which in its results, meant more for the gentler sex than has fallen to the lot of but few. "Ephraim McDowell, the forest-born Dupuytren, with his trembling yet hardly less heroic patient, Mrs. Crawford, hand in hand ventured into the yet unexplored region of Ovarian Pathology. There was no anesthetic cup to benumb the quivering tissues, and no modern antiseptic appliance to restrain the ravage of purulent infection, no one hundred consecutive cases to point her to without a single death. The stake for both was of tremendous import. To her with no record whatever of the hazardous enterprise to cheer or comfort, it did seem like laying her body upon the altar of sacrifice. To him it was a fearful responsibility, fraught either with the reproach of her life upon his soul, or with immortal fame in rescuing her from the jaws of death. The outcome was health to her after months of suffering, and to him a heritage of renown that will continue to brighten as the ages roll into eternity."

The world has been slow to appreciate the work done by the medical profession. By comparison this work is far beyond that of all other professions. I only refer to secular work. The ministry is not a profession, but a sacred calling. I would call your attention to the fact, in all ages we have by years of toil and patience, at last by the triumph of genius, delved from various sources those great secrets of our art, which add to the comfort, security and happiness of mankind. As was done for our brethren of the legal profession, with whom we are so often compared, no infinite hand on Sinai's sacred mountain, amid "the thunderings and the lightenings and the noise of the trumpet, and the mountain smoking," delivered to us "a law and commandments which He had written that we mayest teach them." If there is upon the statute books of any government any law not based upon this revelation it fails in the accomplishment of justice, which should be the prime object of all laws.

Sir Richard Quain recently cites the great work done by Dr. Snow

in saving Great Britain from epidemic cholera for the last twenty-five years, and of course for all time to come. He says: "Through saving Great Britain from cholera he has saved millions of lives. The sole reward England has conferred upon him is midnight obscurity. If he had been a soldier instead of a doctor, if he had slain his thousands instead of saving his millions, every town would have hailed him as a hero and the nation would have honored his memory with monuments more enduring than brass." My friends you know these words are true, and you know still further such should not be.

John Hunter, the founder of scientific surgery, with his scalpel in the dissecting room, did more for England than did Lord Nelson with shot and shell at Trafalgar. Edward Jenner, after twenty long weary years of toil, in his great discovery of vaccination preventing small pox, did more for England than did the Duke of Wellington when he overthrew her bitterest foe, the great Napolean, at Waterloo.

We point with pride to the fact, medicine is a progressive science. In 1886 Austin Flint was invited to deliver an address before the British Medical Association. The address was prepared but never delivered. Before the meeting of that body, this highest type of American citizen and doctor, passed beyond the river into his eternal rest. For fifty years he had been a student and practitioner of the profession he so loved and honored. In this address, referring to some of the great discoveries, which made the latter part of the last half century so famous in the history of the medical world, he uses this language: "Now suppose that whoever may be honored by an invitation to deliver an address on medicine at the annual meeting of the British Medical Association in the year 1936 should select as his theme the history of medicine for the preceding half century, is it to be doubted that the epochs belonging to the history will be found to be not less in number and in importance than those which signalized medical progress during the last half of the century ending in that date? Does not the history of medicine show an acceleration in progress, so that, judging by the past, these next fifty years will be richer in epochs than the previous half century?"

Little did the great Flint think the wonderful achievements in analytical and organic chemistry, in electricity, in bacteriology, would come before the expiration of this century; some of them we have seen, and others we are in sight of, with but little doubt we soon shall see.

Now, my friends of the laity, I want to repeat the assertion, medicine has kept pace with her sister sciences from the beginning. This assertion will bear the crucial test of thorough investigation.

Whenever in the history of the world there appears a cluster of men

that cannot die, but, embalmed among the immortals, gracefully descend along the line of the ages, I find that it has pleased God that medicine should not be unrepresented. When the new star shone divinely in the heavens, the cynosure of the Eastern Magi, the subsequent center of apostles and evangelists, the incarnation; that event around which centers the destiny of every son and daughter of Adam; here medicine was represented in the person of the classical scholar and "beloved physician," the apostle Luke. And before, when Greece had produced such a cluster of intellectual giants, which, to repeat, would require that nature must rest for centuries, when Pindar, Aristophanes and Euripides, as poets, together with Aeschylus and Sophocles, and the philosophers, Socrates, Plato and Xenophon, the historians, Herodotus and Thucidides, and Phideas the statuary, were contemporaries and fellow citizens, medicine was among them, in a person greater than either, who rose higher, and shone with a diviner glory, than the most illustrious of them all, in the person of the God-like Hippocrates. When Sir Isaac Newton and John Milton assimilated the philosophy and poetry of Great Britain with the gods, medicine rose with them in a person as illustrious as either, whom mankind has stamped with immortality and placed beside the founder of his art, Thomas Sydenham, the Hippocrates of England. And when in the New World, the first cluster of immortals appeared in the persons of Washington, Franklin, Adams, Jefferson and kindred spirits, he who fashioned them saw fit to place beside them the immortal physician, Benjamin Rush. Giving Nature time to collect her forces and coming along down the line an exceeding brightness flashes upon our mental vision, in the persons of the great trio, Clay, Webster and Calhoun; and it pleased Him who gave them to immortality, to place medicine beside them, in the person of the illustrious Drake, the peer of either in all the elements of human greatness.

To my vision the hand of God is as manifest in the life work of Thomas Sydenham, John Hunter and Edward Jenner, as it is in the life work of Martin Luther, John Calvin and John Wesley. Look at the work of Hunter, a man as Dr. Gross truly says: "Of extraordinary genius, one of those rare beings whom an all wise and beneficient God, at long intervals, sends into the world to astonish and enlighten mankind, and to direct the human intellect into new channels of thought and action. The sparks which were omitted by Hunter's genius kindled a flame which set the medical and scientific world on fire."

Now coming to an epoch, in the history of our own country, in which many in the audience participated, I want to refer to the greatest

military genius, together with the most remarkable lieutenants, of which we have any knowledge.

If the time ever comes when the truth shall be written, this is what will be accorded Stonewall Jackson and his commanders.

I speak of these in no partisan spirit, my friends, far be it from my thoughts. I care not whether the beardless boy who sleeps in his lonely grave, left his New England home and laid down his young life following Sheridan and Grant, or whether he went from Tennessee, Virginia, or Texas, and followed Forrest, Stuart, or Hood to death and glory. As American citizens, their deeds of valor from honest convictions of duty should touch a responsive chord in every true and brave heart, and should be regarded as our common heritage. God have pity on the soul so narrow and "selfish it can find nothing to admire in the courage, devotion and heroism of his enemies."

I have said this much that no one may misapprehend the allusion to the great Southern soldiers. Yes, it is true, the army which Stonewall Jackson led from Manassas to Chancellorsville was commanded by the most extraordinary military genius we have any account of in the annals of the military world. Here again we find medicine represented by one we love to honor, in all the elements of human greatness, the peer of the most illustrious of them, the great surgeon, Hunter McGuire.

THIRD DAY—*Morning Session.*

Association called to order by the President, at 9:00 a. m.

Invocation by Rev. Homer T. Wilson, of the First Christian church.

Dr. W. M. Yater, of Grandview, moved that that portion of the report of the Ways and Means Committee, appointed at the last meeting, of which Dr. Wilson was chairman, reading as follows:

"Let no man be eligible to any office within its gift who stoops to the humiliating practice of electioneering, either directly or indirectly. To come to these meetings with an organized political following to control the nominating committees in the interest of certain men for the various offices to be elected at the present, and even fu-

ture meetings, is disgusting to those members who come here for the purpose of learning scientific truths and meeting their professional brethren, is demoralizing to the interests of the body, even disorganizing, and clothes the elevation to what ought to be a position of dignified trust with questionable honor."

Be stricken from the report, and in connection offered the following resolution:

Resolved, That the Texas State Medical Association points with pride to its honorable list of ex-Presidents, to whom the office of President came unbidden and unsolicited, and whose untiring energy and devotion to our noble profession is a fit example, worthy the emulation of their successors to those honorable offices.

Dr. A. N. Denton raised the point of order that the matter could not be brought up except by a motion to reconsider the original report of the committee. Dr. Yater then moved to reconsider the action upon said report, and speaking to his motion stated that he could not believe the report was intended as a reflection upon any ex-President of the Association, but it having come to his ears that it had been considered by some that it might have been so intended, he desired to offer the resolution in order that the committee might be relieved of such an accusation.

Dr. A. B. Gardner stated that one member of the committee was an ex-President of the Association, and the character of the men who had held the office of President was guarantee enough that no reflection upon them was intended. That he did not believe any President had ever obtained the office by electioneering methods on his part, nor with a knowledge of any such methods in his behalf by others, but that some younger members, in the best of feeling, and without desire to take undue advantage, had, through admiration and enthusiasm for their favorites for office, been led to resort to such measures. That in that light the report of the committee was in the proper direction, and he was opposed to touching the resolution again.

Drs. Denton and H. A. West spoke endorsing the remarks of Dr. Gardner. Dr. Yater said that he did not believe the report

was intended as a reflection, but as it had given rise to some feeling that it might have been, his resolution was offered as much as a matter of justice to the committee as any one else, to give it a chance to clear itself of the implication, and elicit an expression as to its meaning, and he therefore withdrew the resolution.

President Coleman then said:

Gentlemen of the Association, these few remarks of explanation come under the head of a question of personal privilege, and representing a gentleman who is not here this morning, who asked me as a personal favor to please make this statement to you. I took down the conversation, and told him I would do him the favor to make the statement this morning. One of the ex-Presidents of the Association was written to by the chairman of the committee, and urged to make the opening speech. He came and assisted up to a certain point, when he felt his honor touched, then he quit. He is not here this morning—may never meet us again. Yesterday evening at the Hotel Worth he took off his badge, pinned it on a sweet little girl selling flowers, and asked her to wear it. Then turning to me he said:

"Dr. Coleman, I knew your father as far back as 1856. I have known you since 1874, and I tell you here and now that the necessity for that act is one of the saddest thoughts of my life. My record is before the physicians of Texas. Heaven knows I never, directly or indirectly, sought the office of President of this Association. The first intimation I had of my name being used was when good old Dr. Cupples asked me if my name could be used. I can not believe the committee intended any reflection upon me, but I must take my medicine like all the rest. I can not understand why there is this wholesale denunciation of the officers of this institution, why the medical colleges in this State are denounced, why the members of this Association are accused in such a wholesale way of unprofessional conduct. I, however, have not one unkind word to say. I simply wait for other men and other times."

I thank you, gentlemen, for your very courteous attention.

The President announced the committee to memoralize the legislature in regard to transferring the international quarantine to the Federal government, as follows: Drs. J. W. McLaughlin, of Austin, chairman; W. R. Blailock, of McGregor; J. C. Loggins, of Ennis, and A. N. Denton, of Austin.

The section on "Dermatology" was called, and Dr. Geo. H. Lee, chairman, being absent, Dr. A. B. Gardner, of Bellville, was appointed chairman pro tem. Dr. R. W. Knox, secretary, being also absent, Dr. D. S. Reid, of Wortham, was appointed in his place.

The report of chairman, Dr. Lee, was read by the Secretary, with Dr. Lee's letter of transmittal, and on motion the report was received and referred to the Publishing Committee.

The Secretary read a paper by Dr. A. Van Harlingen, of Philadelphia, on "Management of Staphylogenous Diseases of the Skin," which was, on motion, received and referred to the Publishing Committee.

The section then closed, and the section on "Microscopy and Pathology" called. Secretary West stated that Dr. J. E. Brown, chairman of the section, had been obliged to leave, and had been unable to get his report ready before going, and there being no papers in the section present, the section on "General Medicine was resumed, with Dr. W. L. York, of Decatur, chairman, and Dr. R. B. Grammer, of Fort Worth, secretary.

Dr. York, who was absent when the section was called on the first day, read his report, which was, on motion, referred to the Publishing Committee.

Several papers on the program were called for and found absent, and Dr. West remarked that he hoped the reading of the titles in the absence of the papers would have an important effect; no person has a right to have his name go on the programs and be distributed throughout the country without having the paper present. Dr. York concurred in the remark.

Dr. C. O. Mathews, of Terrell, read a paper on "Diphtheria and Pseudo-Diphtheria, their Differential Diagnosis by the Practitioner." It was received and referred to the Publishing Committee, after discussion by Drs. H. A. West, of Galveston; W. L. York, of Decatur; J. H. Sears, of Waco; W. B. West, of Fort Worth; J. H. Smart, of Dallas; F. S. White, of Terrell; E. A. Woldert, of Tyler; D. B. Blake, of Cuero; M. D. Knox, of Hillsboro, and closed by Dr. Mathews.

The section then adjourned, and the section on "Obstetrics and Diseases of Children" was resumed, Dr. J. J. Williamson, of Cleburne, chairman. Dr. J. E. Gilcreest, of Gainesville, read a paper entitled, "Report of a Case of Cæsarean Section," which was received and referred to the Publishing Committee, and discussed by Drs. R. R. Walker, of Paris; T. A. Stoddard, of Pueblo, Colo., and M. D. Knox, of Hillsboro.

The section closed, and the section on "Surgery" was resumed, Dr. M. D. Knox, chairman, and Dr. W. A. Wood, of Hubbard City, appointed as secretary.

Paper by Dr. J. E. Thompson, of Galveston, entitled "Some Remarks on the Surgery of the Kidneys," was read by caption in his absence.

Dr. A. C. Scott, of Temple, read a paper on "Treatment of Compound Depressed Fracture of the Skull," which was referred to the Publishing Committee, and discussed by Drs. S. Cunningham, of Bastrop, J. C. McClintock, of Topeka, Kans.; W. R. Blailock, of McGregor; R. F. LeMond, of Denver, Colo., and closed by Dr. Scott.

Dr. F. E. Haynes, of Abilene, read a paper on "Early Extirpation of Intra-Mammary Adeno-Sarcoma," which was referred to the Publishing Committee, and discussed by Dr. R. R. Walker, of Paris.

The section then closed.

The Secretary read a telegram from the mayor of Hillsboro, inviting the Association to hold its next annual meeting at that place.

President Coleman said:

Fellows of the Texas State Medical Association, I will detain you now just one moment. As you are well aware, for many years this Association has been without a gavel for the presiding officer to use during our deliberations. If Dr. Sam R. Burroughs were present I would tell you what went with that black stone, but in his absence I do not feel at liberty to do so. I will say, however, he was the last man that used it. Thinking over this matter last summer, it occurred to me that it would be well to obtain a block of wood from some historic spot and have constructed from it a gavel, which I would pre-

sent to the Association on this occasion. I am happy to state, the very first man I struck proved to be a progressive doctor, and he kindly and promptly consented to furnish me that block of wood. Dr. Steele Bailey, of Stanford, Kentucky, Secretary of the Kentucky State Medical Association, obtained that block of wood and sent it to me, and from it I constructed the gavel which I now present to the Association, made from wood obtained from near the resting place of the great McDowell. On that gavel I have had engraved the names of Rush, McDowell, Gross, Sims, names which have rendered American medicine and surgery famous the world over, and of which we, as American doctors and surgeons, are very proud. I now present you the gavel.

Dr. C. M. Rosser, of Terrell, said:

Mr. President and gentlemen, in moving the acceptance of this gavel, and the tender of thanks to our President for securing it, and having it constructed, I desire to offer this resolution: That in grateful recognition of the kindly act of Dr. Steele Bailey, Secretary of the Kentucky State Medical Association, in procuring from an historic spot, dear to the devotees of medicine, the wood from which has been made the handsome gavel now presented by the President, we express our sense of appreciation, and that our Secretary be requested and instructed to express that appreciation in some appropriate manner to Dr. Bailey.

Which resolution was unanimously adopted.

The meeting then adjourned to 2:30 p. m.

THIRD DAY—*Afternoon Session*

Called to order by the President.

The Committee on the Question of Journalizing the Transactions, through its chairman, Dr. A. N. Denton, submitted a majority and a minority report, as follow:

MAJORITY REPORT.

To the President of the Texas State Medical Association:

Your committee appointed to consider the matter of journalizing the Transactions of the Association, have duly considered the subject, and beg leave to submit the following majority report:

A majority of your committee are of opinion that the Association should order the publication of the Transactions either in book or pamplet form, as heretofore, but advise that steps be taken to cheapen the work of printing the same, and that the work be done and the Transactions be placed in the hands of members at an earlier day after the adjournment of this body than has heretofore been the custom.

Respectfully submitted,

W. R. BLAILOCK,
F. S. WHITE,
SAM CUNNINGHAM,
J. E. THOMAS.

MINORITY REPORT.

To the President of the Texas State Medical Association:

The undersigned, a minority of your special committee, respectfully dissents from the majority of the members of said committee in the matter of journalizing the publication of the Transactions, as recommended by the committee appointed at the last annual meeting of this body, and begs leave to recommend the adoption of the suggestions of said last named committee, for the following and other reasons:

1st. On account of the greater cheapness of the latter method of publication, as appears from the following statement: The undersigned has learned by diligent inquiry that the publication of the Transactions can be had in a good and reputable journal of this State, on excellent paper, in good style, and well printed, the entire Transactions as selected by the committee of publication to be printed within twelve calendar months, and five hundred or more copies mailed to such addresses as may be furnished by the Secretary of the Association, at the price of ninety cents per copy, or in other words, for the sum of four hundred and fifty dollars. This, as may be seen, will be a clear saving to the Association of at least two hundred dollars, and the members would at the same time get the official journal of the Association without cost.

2nd. The Transactions as thus published would be in far better form to be useful to the members of this Association, as they would get them in monthly installments, together with other reading matter of valuable character, that would assist the members in their inquiries as to the real work of this body.

Respectfully submitted,

A. N. DENTON, Chairman.

Dr. Denton speaking to his substitute, stated that he was not interested in any medical publication in this State or elsewhere,

and had no personal interest in the question, but it was a matter of interest to the Association from a business standpoint. That there was something the matter with the Association, and it seemed to be dying of a sort of dry rot and disintegration for many years. Instead of building up by additions to the body it had been losing membership, and a committee was appointed twelve months ago to devise ways and means to remedy the evil, and build up the Association and increase its usefulness, and had made the report which had been presented, and in large measure adopted. That one of the chief causes for the slow death of the body had been remedied by abolishing the initiation fee. That there were five thousand physicians in Texas, and the fact that the Association only numbered between three and four hundred members was a disgrace to the profession. That one of the principal reasons for this was the impossibility of the membership taking any interest in the proceedings; not that interesting papers were not read, but we were hurried, only had four days at a time, and owing to this, and generally bad acoustics, they were not heard and discussed by many; they were referred to the Publishing Committee and found their way into the annual Transactions. That very few members know what had been done at this session, and could not know, and they will never know, because when they receive the Transactions six or eight months from this time they will open it, hastily glance at it, and put it in their libraries, where it will remain among the dust and cobwebs, time out of mind, never looked at except as a book of reference. He knew from his own observation, that this was true, that not one-tenth of the members read the Transactions. That if they were journalized, published in a respectable journal, the members would receive them without extra cost, and it will be news to them; the Transactions will be published also, and it will be medical news that will be of interest to this body, and it will be read. The plan of journalizing the Transactions was not a new one, was not an experiment. They have it in Mississippi and Arkansas, and he had been informed by Dr. Keller, of Arkansas, that it had been

in operation there five years with perfect success; that they got it without cost except the annual dues, and they get a greatly improved journal. The difference in their advertisements makes it up to the publisher; and he hoped the Association would consider the matter before continuing the antiquated plan of publishing the Transactions in book form.

Secretary West said that there was something to be said on both sides of the question; there were advantages in the method of journalizing and advantages in the publishing an annual volume of Transactions, which was not antiquated, but was used, with few exceptions, so far as he knew, by nearly every State in the Union. That the only question in the way of publishing the Transactions in the usual form was the question of expense. As far as the inutility of the Transactions is concerned, they represent the thought and life of this body, and if that statement was true, then let the body dissolve. He denied that such was the case. He believed that this body represents the best medical thought of this State, and the volume of Transactions constitutes the best work of the best men in the State, and he did not believe that the majority of the members of the Association threw it aside as waste paper. He knew that a great many regard it as useful to them, they read it as well as put it upon their book shelves, and consult it. He also denied that the Association was disintegrating and believed the body was to-day in better shape than it ever had been since its organization, and that it was on rising ground now. He denied also the statement some person had made that the Association was bankrupt. They came there with a very small indebtedness, and the receipts of this meeting, I suppose, will aggregate a thousand dollars. In regard to the recommendation of the Wilson committee, that the Transactions should be published sooner, he each year commenced work as soon as he got home, and got them out as soon as it could be done, and they were printed as cheaply as possible. The last volume of Transactions, 380 pages, had cost a dollar and fifteen cents a volume, and the character of work could not be gotten

cheaper anywhere. The Transactions are not only sent to the members of the Association, but to every public library in the United States. Public libraries in England and Australia have files of the Transactions of this Association, and keep them, and if you journalize the Transactions that record is broken.

Dr. Jas. M. Keller, of Hot Springs, Arkansas, being requested to speak on the subject in the light of the experience of the Association in that State, stated that he happened to hear that the question was up as to whether the Association should publish the proceedings in one book or establish a society journal, and he remarked that the salvation of the society in Arkansas was in publishing a journal monthly. They found they not only got a better report of all the proceedings, but it was a great benefit financially. They have a journal, the annual dues are five dollars, and each member is entitled to a copy of the journal, and every man in the State, no matter what his school is, is anxious to get it, and the advertisements more than pay the cost of publishing the proceedings. The proceedings are more carefully and fully published in a monthly journal, and every man in the State, whether a member or not, takes the journal. That the secretary was editor of the journal, and instead of having to pay the secretary two or three hundred dollars a year he gets seven or eight hundred from the journal. In answer to an inquiry of President Coleman, he said that the question of advertisements that went into the journal was governed by the same rule that is in force in the Journal of the American Medical Association, and it was as free from objectionable advertisements as any in the world. Speaking in view of the experience of his State he strongly recommended the plan to the Association.

Dr. W. R. Blailock, of McGregor, referring to the recommendation of the Wilson committee that the publication of the Transactions should be submitted to competition, remarked that the very best that had been offered was ninety cents per copy. The Transactions as exhibited by Dr. West was a magnificent volume, printed on good paper, and only cost a dollar

and fifteen cents. If the Transactions were distributed over twelve months they are not valuable for reference unless you incur the additional expense of having them bound, besides the probability of losing a number and destroying the unity and harmony of the Transactions. He believed that the Transactions were worth a great deal as a book of reference, and he had every reason to believe that many members did read the Transactions and were benefited by it. He did not wish to criticise anybody, but he had attended every meeting of the Association since he had become a member, except one, when he was out of the State, and he had always heard that same wail, that the Association was dying. He did not think that this was shown by the Transactions and the character of the papers that were read and discussed. There might be some disgruntled individuals who had proclaimed it so long that they believed it, but the Association was keeping pace with the medical world and making equal progress with any other State.

Dr. J. D. Osborn, of Cleburne, stated that he had hoped this ghost would never show its head again in the Association, but like Banquo's, it will rise. If the Association dies let us have that volume of Transactions on our book shelves year after year to point to with pride in our Association. Fourteen years ago in this very city, backed by that noble old Roman, A. M. Douglass, he fought the very thing they are trying to foist upon this Association to-day. When Texas had one little journal, edited in Galveston by Dr. Wilkinson, the papers of the Association had been going to that journal, and there was much dissatisfaction, there was no proper record kept, and in 1882, in this city, they passed a resolution authorizing publication of an annual volume of Transactions. The Association was not dying. It had told the Committee on Publication to put no advertisements in its book; it could publish its Transactions clear of all such trash. When the State is full of medical journals and competition is rife among them, it is proposed to set up more stife, have one party here and another there, and get up more discord, when all discord is now settled, and we are moving on smoothly to that

high standard of excellence the Texas Medical Association deserves. He hoped that the Association would once and all set down upon the minority report and tell the world that the Texas State doctors are able to have Transactions of their own.

The vote being taking on the motion to substitute the minority for the majority report, the same was lost.

The vote then recurred on the adoption of the majority report, and the same was adopted.

Dr. H. A West moved that a committee be appointed to secure a list of county and district organizations; to designate those in affiliation with us, and that members of such associations desiring to make application for membership with us can do so on recommendation of the presidents and secretaries of such county organization. He spoke upon the motion as calculated to promote the organization of county societies, and also increase the membership in the Association, and thus make up the loss of revenue caused by the abolishing of the initiation fee. He also stated that members joining in that manner would be provided with a copy of the Transactions. A vote being taken upon the motion, it was carried.

The section on "Gynecology" was resumed, Dr. T. J. Bell chairman.

The chairman read a paper on "Tubal Pregnancy and its Termination," by Dr. Joseph Price, of Philadelphia, which was received and referred to Publishing Committee, and discussed by Dr. J. C. McClintock, of Topeka, Kansas.

The chairman read a paper by Dr. Paul F. Munde, of New York, on "Appendicitis in its Relation to Gynecology and Obstetrics," which was referred to the Publishing Committee.

Dr. N. B. Kennedy offered the following resolution:

WHEREAS, a number of applicants who were elected on yesterday and the day before were required to pay an initiation fee of five dollars and five dollars annual dues: now, therefore, be it

Resolved, That all members who have paid the initiation fee of five dollars that the same be refunded to them.

Moved by Dr. Walker, of Paris, and seconded, that the resolution be laid on the table. Lost.

Vote on the resolution being taken, the same was adopted.

The following resolution was offered:

Be it Resolved. By this Association, that for the year 1896 the salary of the Secretary be placed at three hundred dollars, and nothing be allowed the Publishing Committee: and that the Treasurer's salary be placed at seventy five dollars, instead of one hundred and fifty dollars.

J. D. OSBORN,
J. W. MCLAUGHLIN,
W. R. BLAILOCK.

Dr. Osborn stated that the resolution was offered at the suggestion of the Secretary, and he was willing that the two hundred dollars for the Publishing Committte be laid aside, and as far as the Treasurer was concerned, if we had taken every cent away from him it would have been satisfactory to him.

DR. LARENDON: I will state that Dr. Osborn asked me if I would object to the reduction of the salary, and I said I had no objection to it. I had no idea, however, that he was in earnest about it.

DR. KNOX: I would like to hear from the Secretary.

DR. WEST: I wish to state that last year I made a proposition to the Association to assess themselves a dollar apiece in order to get the Association out of debt. The Association declined to make that assessment, but like the man who was willing to sacrifice all his mother-in-law's relations upon the altar of his country, they were perfectly willing to appropriate two hundred dollars of the Publishing Committee's salary for the good of the Association. I will state that I am willing, and voluntarily made that proposition to the committee. It is perfectly satisfactory to me: it is a labor of love for me to edit the Transactions.

It was moved by Dr. M. D. Knox, and seconded, that the resolution be tabled. The motion was lost, and the vote being taken on the resolution, it was adopted.

The President announced the names of the Nominating Committee selected by the members from the several Congressional Districts respectively, as follows:

1st.—Dr. S. C. Reed, of Houston.

2nd.—Dr. E. B. Blailock, of Woodlawn.

3rd.—Dr. H. L. Tate, of Lindale.
4th.—Dr. R. R. Walker, of Paris.
5th.—Dr. J. E. Gilchrist, of Gainesville.
6th.—Dr. J. J. Williamson, of Cleburne.
7th.—Dr. J. H. Jenkins, of Caldwell.
8th.—Dr. C. M. Alexander, of Coleman.
9th.—Dr. S. E. Hudson, of Austin.
10th.—Dr. A. B. Gardner, of Bellville.
11th.—Dr. D. B. Blake, of Cuero.
12th.—Dr. L. L. Shropshire, of San Antonio.
13th.—Dr. C. B. Raines, of Mineral Wells.

The Judicial Council reported recommending admission of new members, which report was adopted.

The Section on "General Medicine" was resumed, and Dr. W. R. Blailock, of McGregor, read a paper on "Hematemesis, with Report of Case," which was referred to the Publishing Committee.

MEMORIAL SERVICES.

In the absence of Dr. E. D. Capps, of Fort Worth, chairman of the Committee on Necrology, Dr. W. M. Yater, of Grandview, was called to the chair, and called the house to order, stating that the hour had come which had been set apart for memorial service.

The Secretary read the list of members who had died during the last year, as follows: Dr. G. M. D. Patterson, Franklin, died July 8, 1895; Dr. Josephus Cummings, Austin, died July 13, 1895; Dr. W. P. Burts, Fort Worth, died September 5, 1895; Dr. A. D. Paulus, Flatonia, and Dr. J. L. Carter, Dallas.

Dr. Yater spoke as follows:

Gentlemen, you have heard the report of the Secretary concerning the death of these members. We only wish that there was a representation of the Association present at this time worthy to do honor to those noble men who have stood for a lifetime identified with our profession, and suitable remarks made to show that in the busy scenes we do not forget them, though absent. If among these names any of you present claim a friend whose virtues you would hold up before the

Association in remarks calculated to stimulate the rest of us to pattern after their noble virtues, an opportunity will be given you at this time to make such remarks as you feel disposed.

Dr. A. N. Denton, of Austin, spoke in memory of Dr. Josephus Cummings, of Austin, as follows:

Mr. President, I think that it is eminently proper that the members of the Association should honor, in some way, by memorial services, the members who have died in good standing as members of this body. I have made no preparation for saying anything upon this subject, and am totally unprepared to do so, but I feel that it is my duty as a member of the Association, and as an intimate acquaintance of one of its members who has passed away during the present year, to say a few words. I refer to the death of Dr. Josephus Cummings. He was a member in good standing, I believe, at the time of his death. I have not the data of his life in full. If I were fully prepared, and had studied his life, I do not feel that I could do justice to the subject.

At the time of the death of Dr. Cummings he was, I think, about forty-six years of age, and died, as has been stated by the Secretary, on the 13th of July, 1895. It is scarcely necessary for me to say to you that he was an active and useful member of this body. I have known and been intimate with Dr. Cummings for about fifteen years. In private life his reputation was a spotless one. For four years, extending from 1879 to 1883, he was city physician of Austin, where he lived, and discharged his duties to the satisfaction of every one who knew him. His industry and diligence as a physician were extraordinary. His practice extended over a wide field, and his charity was almost phenomenal. He was ever ready to attend to every duty of the profession, and was thus constantly engaged, almost day and night.

But it is especially as a surgeon that I wish to speak of Dr. Cummings. It is scarcely necessary, as I said before, for me to say to you that he occupied a place in the advanced ranks of his profession as a surgeon in this State, and if he had lived, I have every reason to believe, that he would have taken a still higher place. He was a bold surgeon. It has been said by some that he was bold to an excess, but with his boldness he was skillful. I think he had performed, at the time of his death, either twelve or thirteen laparotomies, and of that number, I think, only two died. It was my good fortune to be with him in several of these cases, and to observe his manner of operation; and therefore I am prepared to say that only his death prevented him from taking an advanced position in the profession as a surgeon. Although it has been said of Dr. Cummings, by some, that his boldness was excessive, and that his enthusiasm led him to press too far in his

operations, when he came to the end of his life, and his feet were bathed in the waters of that dark and mysterious river whose further shores are wrapped in the mist of eternity, he did not shrink from the same ordeal which he had urged upon his patients so often, but was willing and anxious to submit his body to the gleaming knife of the surgeon, and did so.

He was taken sick on the 10th of July, suddenly, in the midst of his professional work. He had eaten a hearty dinner on that day, and drunk excessively of ice water, and some time in the night, while attending a patient some five or six miles from the city, he was seized with a severe pain in the right iliac region. He continued his labors, however, having a case of obstetrics, and staid with it all night, and next morning came back to the city. I saw him about 10 o'clock: he told me he had been suffering greatly. At that time he was stooped and could not raise himself. He said he had taken several hypodermic injections of morphine during the night to allay the pain, and asked me to give him another, which I did, and sent him home and told him to remain there. He did so. On the 11th, however, his condition was so bad that he himself proposed an operation, but it was so late in the day that we concluded to try other remedies to relieve him. He was not operated on until the 12th, which was Saturday. We got ready in the evening, and I assumed the responsibility, at his request, of opening the abdomen. I can say that I never felt so keenly the responsibility of my position as a surgeon as I did on that occasion. At his request, however, I opened the abdomen in the presence of Drs. Matthews, McLaughlin, and a few other physicians of the city. We saw at once that the cause was in the bowels There was some two or three feet of the ileum that had become gangrenous, and the entire alimentary canal seemed to be in a state of congestion and paralysis. We did not proceed far with the operation. I sought for some obstruction, but did not find it. We closed up the abdominal cavity. Thus departed Dr. Josephus Cummings, one of the most skillful and ablest surgeons whose name has ever adorned the roll of this body.

Dr. P. C. Coleman, of Colorado, spoke in memory of Dr. W. P. Burts, of Fort Worth, as follows:

Mr. President and gentlemen, I will not undertake to speak to any extent on the character, the worth and virtues of Dr. W. P. Burts. His life and record as a physician, as a citizen, as a man, as a father, as a husband, are before you and the people of this city. I would say, however, on the day I first had the pleasure of knowing Dr. Burts, he deeply impressed me as one of the truest friends and purest men, one of the most conservative and safest practitioners with whom I ever

came in contact. I loved him as a brother: I revere his memory, and I think it is due his life labors in this Association that we, as a body, appoint a committee to report at some future time upon his life, work and labors in behalf of medicine in this State. I would therefore suggest, Mr. Chairman, that you name a committee consisting of Dr. J. T. Field, his old partner, Dr. R. E. Moody, an old student, and Dr. J. D. Osborn, an old friend and associate, to report to the Secretary: that report to be made a part of the Transactions.

Dr. A. N. Denton, of Austin, said:

I feel, without saying too much, that I can not but endorse the remarks made by our President relative to Dr. Burts. I have known him since 1869 intimately, and he was a warm, personal friend of mine: and I only rise to endorse every word that has been said by your President. There was no man that I knew better than Dr. W. P. Burts, and I knew him to be a good citizen, a safe physician, a kind and loving father and husband. I endorse every word that has been said by our President.

The motion of Dr. Coleman, as to appointing a committee on the death of Dr. Burts, was carried.

DR. H. A. WEST: I would suggest, Mr. Chairman, that two other gentlemen be named to serve with Dr. Denton on the death of Dr. Cummings.

THE CHAIR: Will you name two others to serve with you from Austin?

DR. DENTON: I will name Dr. J. W. McLaughlin and Dr. Matthews.

DR. N. B. KENNEDY, of Hillsboro: I move that three of those who are best acqainted with the other deceased members whose names have been read—three of the friends of each deceased member—be appointed to draft resolutions in regard to their death.

The motion was carried.

DR. B. F. BRITTAIN, of Arlington: I would just like to remark that I endorse this plan that you have taken to revere the memory of our departed friends. I don't like to see a man that I have been in company with so many years just die out like an old tallow candle. I like to see a move of this kind taken, and when my time comes to pass away, I hope to be thus remembered.

The Section on "Surgery" was resumed, and Dr. A. W. Fly, of Galveston, in the absence of his paper, made a verbal report

on "Two Cases of Cholecystotomy." The same was received and referred to the Publishing Committee, after discussion by Dr. W. M. Yater, of Grandview.

The Section on "General Medicine" was resumed, Dr. Loggins presiding in the absence of the chairman.

Dr. H. L. Tate, of Lindale, read paper on "The Prevailing Diseases of East Texas, and the Changes Thereof as Observed During the Past Thirty Years." The paper was referred to the Publishing Committee, and discussion followed by Drs. H. A. West, B. F. Brittain, of Arlington; J. D. Osborn, of Cleburne; A. P. Brown, of Fort Worth, and closed by Dr. Tate.

Meeting adjourned until next morning.

FOURTH DAY—*Morning Session.*

Meeting called to order at 9:00 a. m., by the President.

Invocation by Rev. H. A. Boaz, of the Mulkey Memorial M. E. church.

The nominating committee submitted the following report:

FORT WORTH, TEXAS, May 1, 1896.

Mr. President and Gentlemen:

We, your Nominating Committee, beg leave to submit the following report:

1. For the office of President for the coming year we submit the names of Dr. Bacon Saunders, of Fort Worth, and Dr. J. C. Loggins, of Ennis.

2. For the office of First Vice President we offer Dr. A. N. Denton, of Austin; for Second Vice President, Dr. J. S. Letcher, of Dallas, and for Third Vice President, Dr. David Cerna, of Galveston.

3. For the Publishing Committee, Drs. H. A. West, David Cerna and Vard H. Hulen, all of Galveston.

4. For orator, Dr. J. O, McReynolds, of Dallas.

5. On the Judicial Council, Drs. J. E. Gilcrest, of Gainesville, Fuller, of Jacksonville; J. D. Osborn, of Cleburne, and A. B. Gardner, of Belleville.

6. Place of next annual meeting, Paris, Texas. Time of next annual meeting, the fourth Tuesday in April, 1897.

7. For Chairman Committee of Arrangements, R. R. Walker, of Paris.

8. All members of this Association are elected delegates to the American Medical Association who wish to attend.

Respectfully submitted,

J. H. SEARS, Chairman.

S. E. HUDSON, Secretary.

A ballot was taken for the office of President, resulting in 17 votes for Dr. Loggins and 10 for Dr. Saunders. It was moved that the election of Dr. Loggins be made unanimous, which was carried, and Dr. J. C. Loggins, of Ennis, was declared President of the Association for the ensuing year.

The report of the nominating committee was then acted upon as a whole, and adopted.

Secretary West then spoke in regard to the new plan of admission of members on certificates from county and district societies, urging that a committee be appointed, as suggested the preceding day, to communicate with the county and district organizations, and secure, as nearly as possible, a list of members who will join, to whom he might send blank applications, and in this way arrive at some computation of the number of volumes of Transactions that would be required; stating further, that he believed in this way the membership might be increased sufficiently to make up for the loss of funds caused by abolishing the initiation fee.

The Judicial Council reported further recommending the admission of new members, which was adopted.

The section on "Dermatology" was resumed, Dr. Geo. H. Lee in the chair. Chairman read paper by Dr. R. W. Knox, of Houston, "Eaythema Multiforme Following Circumcision." Referred to the Publishing Committee, and discussed by Dr. J. H. Sears, of Waco, and closed by Dr. Lee.

The section on "Ophthalmology and Otology" was resumed, and Dr. R. F. LeMond, of Denver, Colo., read a paper on "Re-

lation Existing Between Diseases of the Eye and Brain." Received and referred to the Publishing Committee.

The Judicial Council submitted a report recommending the admission of new members, which was adopted. Secretary West remarked that this made a total of sixty-two new members admitted to the Association during this meeting, nearly double the admission at any meeting since that of 1886, at Dallas.

Dr. B. F. Brittain, of Arlington, offered the following resolution, which was duly carried:

WHEREAS, the State Medical Association adopted the report of the committee wherein it was recommended that the homeopaths and eclectics be recognized in the law in order to get a law passed governing the practice of medicine, and as some uninformed persons may construe this into an endorsement of the homeopaths and eclectics,

Therefore, we positively declare that we do not recognize them only so far as they are recognized by the statutes and constitution of the State of Texas to enable us to have a medical law passed in the State, but that we stand by the code of the American Medical Association, and will expel any doctor of the Texas Medical Association who will so lower the dignity of regular medicine as to meet them in consultation.

B. F. BRITTAIN.

The section on "General Medicine" was resumed, and Dr. L. Ashton, of Dallas, read a paper on "Report of a Case of Typical Thphoid Fever, Complicated by Thrombi of the Right and Left Crural Veins." Same was received and referred to Publishing Committee, and discussed by Dr. H. A. West, of Galveston; Dr. I. A. McGee, of Rice; Dr. R. A. Miller, of Dublin, and Dr. B. F. Brittain, of Arlington.

The Secretary read a letter from Dr. St. Cloud Cooper, of Fort Smith, Arkansas, stating that he had removed from the State, and therefore resigned his membership. The President remarked that he would be glad to have him remain, and requested the Secretary to inform him that he was still eligible to membership if that was the only reason for his resignation.

The Secretary read a letter from Dr. R. J. Kirkland, of Grand Rapids, Mich., Secretary of the Michigan State Medical Association, asking the co-operation of this Association in a plan

for organization of the medical profession of the United States, and enclosing a synopsis of such plan. Said letter and synopsis were as follows:

1. Every local society in good standing shall be a part of the State society, and under its government.

2. Every State society shall be a part of the national society.

3. No local society shall be represented in the national organization except through its State society.

4. A man, by joining his local society, becomes by that one act a member of the State and national societies, and can join such societies in no other way. In this way the local society would guard the avenues of entrance.

5. To the annual dues demanded by and payable to the local society would be added three dollars for the State and five dollars for the national organizations, and would entitle the member to the transactions of both.

6. The degree of Fellow of the American Medical Association should be created, and every man qualified to join his local society would be entitled to bear this degree.

7. In the national society should be formed an executive board (from the Presidents of the State societies, or otherwise) should, among other duties, exercise supervision over the various State societies. And in the State society a similar board which should exercise similar jurisdiction over local societies.

According to this plan a man can join the State and national societies only by being accepted by the local society, where he is known. Thus fewer unworthy men would gain entrance to our national society. By the payment of $10 and signing such constitution as may be required, the member would be entitled to the transactions of both his State society and the national organization, and would be entitled to write himself "Fellow of the American Medical Association."

Dr. H. A. West and others spoke upon the subject, the general opinion being that it was a move in the right direction, although the details might not be such as might be best calculated to secure the end desired.

Dr. Coleman opposed the resolution on the ground that it would create discord or trouble when requiring doctors to join the local societies first.

Dr. Sears, of Waco, favored the adoption of the resolution. He then moved that representatives from the State Association

to the American Association urge the American Association to adopt the resolution given compelling members of the American Association to be members of the State Association first. Carried.

After some discussion of the subject, Dr. J. H. Sears, of Waco, moved that the representatives of this Association to the American Medical Association be instructed to act upon the matter in that body in accordance with the plan suggested, with the exception of requiring membership in a local society as a requisite to membership in the State Association, explaining that on account of the difficulty of forming local societies in the more sparsely settled portions of the State this Association was not prepared at this time to make such requirement. The motion was seconded and carried.

The Secretary read a communication from the Sacramento (California) Society for Medical Improvement, in regard to taking action against the policy adopted by life insurance companies in cutting down fees for examinations, as follows:

At a regular meeting of the Sacramento Society for Medical Improvement, held January 21, 1896, the following preamble and resolutions were adopted, and copies ordered sent to the medical journals and to medical societies in general, in order to obtain concerted action on the part of the profession:

WHEREAS, The New York Life Insurance Company and the Equitable Life Assurance Society have recently adopted a graded scale of fees for medical examinations, the practical effect of which will be a reduction of the medical examiner's income from these sources by about 40 per cent.; and whereas, these companies, claiming to be amongst the largest and strongest in the world, have, hitherto, in common with all other first class "old line" life insurance companies, paid a uniform fee of $5 for medical examinations, insisting that the same care be used in examining applicants for small as for large policies; and whereas, under the proposed schedule, no reduction is made in the amount of work performed or in the degree of responsibility exacted; therefore, be it

Resolved, That we, as physicians, recognize that all life insurance is based on mortality tables and on the probable life expectancy of the assured, in arriving at which the medical examiner is the most important factor, and that in the past he has been the most valuable, as

well as the most essential feature in the establishment of life insurance companies.

Resolved, That we cannot recognize, as a principle governing our remuneration for exactly similar services, the amount of premium paid by the applicant, or the profit derived by the company from any individual risk.

Resolved, That such methods, having no foundation in reason or justice, are contrary to all business principles, and must inevitably lead to a lower standard of examinations, with correspondingly disastrous results.

Resolved, That the Sacramento Society for Medical Improvement protests against methods that are unfair, irrational, and indefensible, and, on behalf of its members, pledges them to absolutely decline to examine applicants for life insurance for any "old line" company, for any fee less than $5 for each and every examination made.

Resolved, That copies of these resolutions be transmitted to every medical society in California, to all State medical societies, and to the American Medical Association, requesting that concerted action be taken in the premises.

THOS. W. HUNTINGTON, Chairman,
W. J. HANNA,
JAMES H. PARKINSON.

Dr. J. H. Sears moved that this Association adopt the sentiment contained in the communication, and act upon it, and take the position that its members would not make an examination for less than five dollars. Same was seconded and carried.

On motion it was resolved that the Secretary be instructed to communicate with our representatives and senators in congress urging them to oppose the enactment of the pending bill for prohibition of vivisection by every means in their power.

The Secretary read a telegram from Dr. Paul Paquin, of St. Louis, Mo., to Dr. R. B. Grammer, stating that he was unable to attend the meeting, and read his paper, on account of his wife's illness. The President announced that similar communications had been received from Dr. Sam R. Burroughs, of Raymond; Dr. Irvin Pope, of Tyler; Dr. J. T. Wagley, of Cleburne, Dr. Wagley being detained by sickness of his wife, and the others by circumstances beyond their control. The Secretary also stated that a similar communication had been received

from Dr. E. L. Menefee, of Granbury, who was detained by sickness in his family.

On motion of Dr. Sears, the sympathy of the Association was extended to the members named.

President Coleman then said:

Gentlemen of the Association, we have about completed the business of this Association, and we are now to enter upon a new administration, and we will now proceed to the installation of the new officers. The chair will request Dr. Sears and Dr. A. P. Brown to conduct President elect Dr. J. C. Loggins to the chair.

Dr. Sears in presenting Dr. Loggins, said:

Gentlemen of the Texas State Medical Association, I present to you your new President. I hope you are pleased with him. He is tall, fine looking, and about the ablest man in the Association. I bespeak for him a pacific and prosperous journey through this presidency.

President Loggins addressed the meeting as follows:

Had I been anticipating the promotion with which it has pleased your partiality to honor me this morning, it would have been a pleasure for me to search my vocabulary for language that would appropriately express to you my sincere thanks. Under the circumstances it would be an absolute impossibility for me to do so. I am not unmindful of the fact that this was not intended so much as a personal tribute to me as it was to emphasize the fact that our Texas State Medical Association is united by a community of interests; that it is not divided by sectional prejudice nor partisan strife, and it was the desire of this Association to extend its recognition to every part of our grand State. When I consider these facts, in connection with the further fact that you have deemed me worthy to represent my section of the State when you desired to recognize it in the distribution of your honors, I realize the fact that I am placed under renewed obligations to the membership of the Texas State Medical Association; obligations of profoundest gratitude, such as awaken within me emotions which it would be absolutely impossible for me to express. I can, therefore, gentlemen, only ask that you look for such expressions of real gratitude and thankfulness as you are entitled to through my labors, in behalf of the promotion and advancement of rational, legitimate medicine; and I trust that my efforts may be characterized by that untiring zeal that they, in connection with yours, shall in the

end be crowned with that brilliant success which our noble profession so richly deserves. I thank you, gentlemen.

The retiring President, Dr. P. C. Coleman, spoke as follows:

Fellows of the Texas State Medical Association, it is with the deepest sense of gratitude that I express to you my appreciation of your loyalty and your ready response in every way, and what you have done in aiding me in the discharge of the responsible duties growing out of this office during the past year. And, gentlemen, if you will only be as faithful to my successor in this office as you have been to me, I can guarantee now that there may be no fear whatever of the results. To me it has been a labor of love, and in every way possible I have tried to discharge the duties in connection with this responsible position, this great honor, in such a way as to promote the interests of scientific medicine in our State. If I have to any extent succeeded, I want to say candidly that I feel it is due that I should say to you in this connection that it is owing largely to the support, the generous support, which you have given me, and I thank you for it.

Now, gentlemen, in retiring from this office, and with the sentiments which I have already expressed, I wish to say that if by my actions, if by any words I have spoken, if by any thoughts I have suggested, if there is any member of this body who feels that he has in any way been aggrieved, will you attribute that to an error of the head, and not of the heart. I have only had in view the welfare of the Association, and to this end I have labored—and pardon me, gentlemen, when I say that, with due respect, and an earnest appreciation of the great work, of the faithful work, that has been done by my predecessors, I do believe, with the aid which you have given me, that this will be a memorable year in the history of the Association. I believe we have accomplished results, permanent in their nature, which will continue to go on.

And now, just one word and I am done. It is in response, gentlemen, to the suggestions which have been made on this floor that there are elements of disintegration in this Association. I want to go upon record upon that one point. I want to enter my protest against such sentiments, and I want to say that I call the world to witness, that at this meeting there have been added over twice as many members to this Association as have been added to any one meeting for the ten years that I have been connected with it, with one exception, in 1886. I want to again refer to the fact that the young men who have been here, the earnest men, the men who have their lives before them, with that determination in every expression of their countenances, refute that statement.

Gentlemen, I thank you; and now I retire from this office with a profound sense of the conviction that the interests of the Association are in the hands of a gentleman who needs no encomium from me. If fifteen years of earnest hard work, if fifteen years of devotion to her every interest do not stand for themselves, I could not say any word which would further convince you on that point. And now, my brother, I turn this gavel over to you, and I have no doubt that in your hands its every rap will mean justice. May the time soon come when in response to its calling a large majority of the physicians of Texas shall come forward and assume the duties of members of the Texas Medical Association.

The minutes of the meeting being in shorthand and not yet transcribed, it was moved and seconded that they be adopted by caption. Carried.

Dr. R. H. Chilton, of Dallas, and Dr. J. L. Harrington, of Abilene, offered the following resolution, which was adopted:

Resolved, That we express our sincere thanks to the City of Fort Worth for its magnificent hospitality; to the physicians of this city for their untiring attention and kindness during the session of this body; to the railways for generous reduction of rates: to the press for the full and accurate reports of our proceedings; to the county commissioners for the use of this building, and to the Committee of Arrangments and Reception, who have been so untiring in their attention to our wants.

The new vice-Presidents, not being present, Dr. Sears suggested that the Secretary notify them of their election, in order that there might be no delay in their work of appointing chairmen and secretaries of the different sections.

Dr. Coleman said:

Mr. Chairman, I would just like to express my appreciation to the Dallas and Galveston News and the Fort Worth Gazette, in giving publication so fully and so freely to me as President of this Association for the year 1896. I will state that I have never made a request of these papers—and I will include the Mail-Telegram—to which they have not readily responded; and I do believe, gentlemen, the large attendance on this Association has been owing to the fact that our meetings have been advertised by these papers, as well as by the country press.

On motion of Dr. Sears the thanks of the Association were tendered to the papers named.

Dr. Brittain, of Arlington, said:

That is done, boys; I will tell you the reason I voted for it so readily. They recognize Brittain, of Arlington; consequently I was bound to vote for it.

The Association then adjourned, to meet in the City of Paris on the fourth Tuesday in April, 1897.

PAPERS

READ BEFORE THE

TWENTY-EIGHTH ANNUAL MEETING

OF

The Texas State Medical Association,

HELD AT

FORT WORTH, TEXAS,

April 28th, 29th, 30th, and May 1st, 1896.

SECTION ON GENERAL MEDICINE.

NOTES ON SOME OF THE NEWER METHODS OF TREATMENT OF NERVOUS AND MENTAL DISEASE.

FREDERICK PETERSON, M. D.,

Chief of Clinic, Nervous Department, Vanderbilt Clinic, College of Physicians and Surgeons, New York; Visiting Neurologist to the City Hospital; Consulting Physician to the Manhattan State Hospitals for the Insane.

There are few conditions in the endless variety of diseases coming under the observation of the medical practitioner so difficult to treat satisfactorily as those which concern the nervous system. Wonderful have been the strides of science in all directions during the past ten years, and that of neurology has kept pace in divers ways with its sister sciences, for have we not unveiled many mysteries in the domain of the brain and spinal cord, disentangled many curious plans of structure, solved many remarkable problems of function and of localization, and brought the pathology of many nervous and mental disorders into the clear light of day? No one gainsays this, and there have been real triumphs of modern medicine resulting from such discoveries, particularly in the field of surgery. There have been revelations, marvels, undreamed of successes, in the new surgery of the nervous system. And yet it must be confessed that the new surgery concerns but a restricted class of these disorders, and the great majority of nervous diseases have still to be regarded as obstinate and unyielding, still to be looked upon as unsatisfactory to deal with, still to be treated in

a more or less empirical manner. The therapeutics of nervous and mental diseases has not kept pace with our great progress in the realms of anatomy, physiology and pathology. Still, advance has been made even in therapeutics, which should be, after all, the most important part of our aim, for if we are not to prevent and cure the diseases which we so laboriously and successfully investigate, to what end should our researches tend? It is my purpose in this brief paper to touch upon a few methods of treatment, some new and some revivified from an older time, methods with which you are already more or less familiar, but which I wish to amplify and comment upon from the results of my own experience. I shall first speak of several general therapeutic applications and procedure, and then of some particular conditions, diseases and drugs.

REST.

It was in 1860 that Hilton began his series of lectures on rest and pain, in which he pointed out how much rest had to do with the growth and repair of the bodily tissues, and fifteen years later Mitchell wrote of the value of rest in the treatment of hysteria and neurasthenia. Nowadays, however, we apply the principle of rest to a great variety of nervous disorders. Besides its indication in many cases of hysteria and neurasthenia, we find it of the greatest benefit in all sorts of nervous and mental troubles, and especially in such as evince a tendency to waste of tissue and exhaustion. Most cases of acute mania need to be treated by rest, which should be made as absolute as possible. Many cases of acute melancholia recover more quickly when confined to bed. There are cases of epilepsy in which subjection to the rest treatment modifies the attacks in their severity and frequency. Mild types of chorea do not need such aid, but the medium and severe grades of chorea are always distinctly benefited by more or less protracted rest in bed. While in many nervous and mental cases the rest should be absolute for a period of several weeks in order to insure a successful termination, it is astonishing how much benefit can

be obtained by a modified rest treatment; that is to say, by merely prolonging the daily amount of repose in bed. Early going to bed and late rising are not only good for many an overworked student, housewife or business man, for many a mildly neurasthenic or hysterical patient, for numerous cases of incipient mental disturbance, and for epileptic and choreic patients, but it is frequently useful in such disorders as locomotor ataxia, habit spasm, vertigo, anæmia of the brain, exophthalmic goitre, writer's cramp and other professional neurosis (which, indeed, are local expressions of general nervous exhaustion) hypochondriasis and kindred conditions. The principle is to apply rest methodically and in proportion to the degree of nervous exhaustion, strain or irritation.

When rest is made nearly absolute, it is necessary that tissue metabolism should be encouraged by attention to the amount and quantity of food, especially by substitution of some passive artificial exercise for the active movements upon which the organism has hitherto depended. This is accomplished chiefly by massage.

THE ALIPTIC ART.*

Now, massage was a favorite remedy and luxury in ancient Roman times, when it figured as the Aliptic Art, so that it is not at all a new remedy, but its vogue in recent years has assumed enormous proportions, and it has received a scientific study and systematization to which the ancients were strangers. This rubbing, beating and kneading of the trunk and limbs, when skillfully done, is an essential adjunct to the absolute rest treatment. Moreover, it has great importance in all sorts of muscular atrophies. It is invaluable in many kinds of pain, and it often surpasses drugs as a soother of irritation and an inducer of sleep.

I have already alluded to the question of diet.

---

*The Aliptic Art—A historical study by Dr. Frederick Peterson, Philadelphia Medical News, August 11, 1883

DIET IN NERVOUS AND MENTAL DISEASE.

It is needless to say that in connection with a form of rest treatment, simplicity should be the rule as regards food. The selection should be made from the point of view of easy digestibility, and foremost in this regard stand milk and its various preparations. Where milk can not be taken in its ordinary form, some more digestible preparation may be employed, such as peptionized milk, kumyss, matzoon or somal. In cases undergoing a rest treatment this is the main staple of food, and it should be given frequently and in considerable quantity. Overfeeding is indeed another principle in the treatment of any of the nervous and mental diseases in which exhaustion is a feature. Thus absolute rest and over-feeding must be our chief reliance in acute mania, in severe types of melancholia, neurasthenia, hysteria, chorea and the like. Many cases require feeding every hour or two hours. Raw or soft boiled eggs, rare or raw beef, specially prepared cereals and sometimes green vegetables and fruits may be added to the diet. By specially prepared cereals I mean simple boiled rice, stale bread in the form of toast, or better, bread which has been twice baked (zariback). Stimulants are only occasionally indicated, and then especially in acute maniacal or other dangerously exhausting conditions.

A somewhat similar form of diet is appropriate for neuralgias and mental disturbances having a rheumatic or gouty diathesis as a basis. The same diet is essential in all cases of insanity, neurasthenia, epilepsy, and so on, which seem to depend upon auto-intoxication from fermentative or putrefactive changes in the intestinal contents, and such cases we find nowadays to be not at all infrequent.

HYDROTHERAPY.

The water cure is not a new thing to your Association, for you have some excellent hydrotherapeutic establishments in Texas. Yet it is only lately that the therapeutic value of water has become generally recognized in this country. When I wrote an article in the February, 1893, number of the *American*

Journal of the Medical Sciences on "Hydrotherapy in the Treatment of Nervous and Mental Diseases," there was really no place in the City of New York to which one could send patients and have his own ideas as to treatment faithfully carried out; nor did I know of a single asylum for the insane in this country installed with hydrotherapeutic apparatus, such as I had seen in a number of asylums abroad, even in so remote a country as Greece. Now I could name several public and private asylums which are equipped with arrangements for this purpose. Abroad this treatment has taken a stand second to no other. In the Vienna University there is a chair devoted to this branch of therapeutics, and as regards the particular value of hydriatic procedures in the class of diseases under consideration, the incumbent of that chair, Prof. Winternitz, told me that three-fourths of the patients in his institute for hydrotherapy were sufferers from nervous complaints.

Water affects the nervous system in a variety of ways.

Cold baths increase and warm baths diminish the irritability of the brain and spinal cord in a reflex manner by stimulating the sensory and vaso-motor nerves of the skin, thus influencing the cerebro-spinal circulation.

Short cold baths, especially when combined with sprinkling, showering, or rubbing, are powerfully stimulating, exhilarating and tonic. Cold baths stimulate peristalsis and the visceral reflexes in the cord, and increase blood-pressure. Prolonged warm baths, steam and hot air baths, and the hot pack, are relaxing, fatiguing, and tend to induce sleep. Warm baths diminish arterial tension, and reduce the irritability of individual nerves and the whole nervous system. The spinal douche is of the greatest service in many nervous disorders, because of its remarkable tonic, revulsive and derivative effects. It is a powerful mental as well as physical stimulus. By means of various nozzles, it is ejected in the form of a strong stream up and down the back of the patient for a few seconds only, at a distance of some ten feet. Patients with good reaction do not need any special preparation, but at the beginning it is well to

have the patient take a warm bath or stay a few minutes in a hot air box previous to its application. At the first seances, the water should not be too cold. Later it may be gradually lowered to 50 degrees Fahr. It should be taken every day when possible. Occasionally this cold spinal douche is alternated with a hot douche (the so-called Scotch douche). This is an exceedingly successful procedure in many cases of hysteria, neurasthenia, and in lethargic and hysterical forms of insanity, where there is sluggish intellect, great depression, apathy, stupor, catalepsy, etc.; and in any case of nervous and mental disease where anæmia, chlorosis or gastric trouble exists. I have seen it effective in diminishing some of the symptoms even of locomotor ataxia.

In insomnia there is no other remedy so generally efficient and at the same time so innocuous. I have seen it successful in wakefulness from every kind of cause, and in cases seemingly intractable to other remedies. Not long ago an especially instructive case presented itself: A distinguished general practitioner in New York brought me a man from the northern part of the State who had been a victim of insomnia for seventeen years. He had consulted many physicians, and there was no hypnotic drug in the pharmacopœia which had not been tried for long periods. They had, of course, for a time produced sleep, but only in large doses, and the man was utterly shattered in his nervous system by such treatment. He was tottering and tremulous, his stomach disordered, his mind beginning to be enfeebled, and his sleeplessness only diminished by large doses of deleterious drugs. It was evident to me that hypnotics were no longer to be thought of in such a case. I had him begin, the same evening, with the hot, wet pack. He had a full night's refreshing sleep at once, and it has since continued to be as successful. The harmful drugs have been banished, and the man is rapidly recovering his almost forgotten health. There are two hydriatric procedures for the production of sleep. One is the prolonged warm whole bath at a temperature of 70 de-

grees to 90 degrees Fahr., for from one-half to two hours, just before retiring. This is indicated in mild cases of insomnia. But the hot, wet pack is more effectual, and more widely applicable in all forms of sleeplessness, whether in nervous or insane individuals. It is applied in this way: A blanket 9x9 feet is spread upon the patient's bed, and upon this a sheet wrung out dry, after dipping in hot water, is laid. The patient lies down upon this, and the sheet is at once evenly arranged about and pressed around the whole body with the exception of the head, after which the blanket is also, immediately likewise closely adjusted to every part of the patient's body. Other dry blankets may now be added as seems necessary. The patient remains in this an hour, or longer; all night, if asleep.

I know of no better treatment of acute maniacal conditions, for instance, than rest in bed, over-feeding, and the hot, wet pack. In severe forms it is sometimes absolutely necessary to use a drug, and then I give sulphate of duboisin, hypodermically, in $\frac{1}{100}$ to $\frac{1}{60}$ grain doses, but it is surprising how many cases will do well on this treatment with no drug at all.

A nightly cold foot bath, with some chafing of the feet, has been exceedingly successful in my hands in the treatment of one of the most obstinate disorders, as far as drugs are concerned, viz.: congestive headaches.

But the uses of this valuable therapeutic agent are much more diverse than I have space to detail here, and it is gratifying to observe how widespread the employment of hydrotherapy is becoming from year to year.

ELECTRICITY.

In the domain of electro-therapy there have been considerable strides of late years. We have attained to a greater knowledge of the effects of different currents. For instance, I have experimented with for some years, and described in several papers that peculiar effect of the continuous current which goes under the name of cataphoresis, anodal diffusion, electrical osmosis or

voltaic narcotism.*. I do not know of anything better than cocaine cataphoresis for the immediate relief of trigeminal neuralgia of peripheral origin. To use morphine in such cases is, to my mind, criminal, since the patient is almost certain to acquire a morphine habit. Cocaine cataphoresis gives relief for from five to ten hours. It is also useful in local spasm, such as blepharopasm and facial tic. For general conditions, such as gout, syphilis and rheumatism, which induce various nervous disorders, the cataphoretic bath can be employed with greater success than any other kind of treatment.

Besides these conditions, it is doubtless through cataphoresis that trophic disorders are influenced, as, for instance, when the galvanic current is given for muscular atrophies. It is the cataphoretic effect of the current that transfers molecules of protoplasm in its path from one cell to another, from the cells into the blood stream, and from the blood stream into the tissues. Hence, in muscular atrophies we have this important guiding principle; since the amount of cataphoretic effect depends upon the current's strength, we need to employ very large electrodes (covering, for instance, the whole atrophied part) or local immersion of the part in an anodal bath, and to make use of as many milliamperes of current strength as possible.

---

* Papers by the author:

Electrical Cataphoresis as a Therapeutic Measure. N. Y. Medical Journal, April 27, 1889.

A New Method of Accurate Dosage in the Cataphoretic use of Electricity. N. Y. Medical Journal, October 15, 1890.

Farther Studies in the Therapeutics of Anodal Diffusion. N. Y. Medical Record, January 31, 1891.

Introduction of Drugs into the Human Body by Electricity. Philadelphia Times and Register, March 21, 1891.

Electricity in the Diagnosis of Nervous Diseases. Buffalo Medical Journal, October, 1892.

Chapter on Cataphoresis in Bigelow's International System of Electrotherapeutics. Philadelphia and London, 1894.

Methods of Employing Electricity in Nervous Diseases. Buffalo Medical Journal, November, 1895.

Another new thing in electro-therapy has been the introduction of the sinusoidal current. This is, in brief, an alternating current analogous to the secondary current of the Faradaic battery, but with an enormous number of vibrations per second. A great deal has been said, perhaps too much, in favor of this new current, especially in France.

Some three years ago Mr. Kennelly and I experimented at the Edison Laboratory with the sinusoidal current. The results of those experiments have never been made public, for lack of time, until the present moment. We established one singular and interesting fact, which is of therapeutic value and which I will detail here. The experiments were tried upon Mr. Kennelly, Dr. Charles E. Atwood, one of the assistants at the Vanderbilt Clinic, in the nervous department, who kindly aided us, and upon myself. The same results were obtained in each of us. Applying one pole to a nerve trunk, say at the wrist, and another at an indifferent point, there were no perceptible effects as long as the vibrations were below 2000 per second. When we reached that point, the parts supplied by the nerve beneath the pole became anæsthetic, so that pricking with a needle or knife, or touching the part, were not perceived. Both the anæsthesia and analgesia were so marked that an incision might have been made without the consciousness of the individual operated upon. The higher the rate of vibration the more noteworthy was this effect. Our apparatus did not permit of our going beyond 3000 vibrations per second. We seem to set up a vibration in the nerve which abrogated the normal nerve vibration and thus prevented the transmission of sensations to the brain. The return of sensibility was instantaneous on interruption of the electric current. Doubtless small operations might be performed by this new method of local anæsthesia. As yet the procedure is in its infancy. It will relieve severe neuralgias temporarily, and I presume, as the method is more perfected, it may be productive of gratifying results in this field, much better than by any other system of vibratory application.

The recently discovered X-rays of Roentgen will not only bring out remarkable facts in connection with the whole subject of light and electricity, not only have a use in surgical diagnosis, as has already been demonstrated, but are destined, I am sure, to aid us in the investigation of the structure of the central nervous system. We will very likely not be able to photograph the brain, but we can photograph sections of it of varying thickness, and of parts of the spinal cord and nerves, and taking advantage of the varying conductivity of metals as regards the X-rays, and of the susceptibility of different nervous tissues to certain metal stains, we shall probably be able to definitely increase our already large knowledge of nerve and cell relations.

VIBRATORY THERAPEUTICS.

The employmont of vibration in nervous disorders is not exactly new, but it received a new impulse when Charcot and his school not long ago re-introduced it in the treatment of certain affections. There is no doubt of its usefulness in a variety of disorders, such as neuralgia, neurasthenia, hysteria, and headaches. A vibrating chair has been found serviceable for cases of paralysis agitans. I have noted marked benefit in obstinate tinnitus aurium from vibration over the temporal bone. The apparatus I use is various. This cap I had made for me by Messrs. Waite & Bartlett, of New York. It consists of parts for adjustment to the head. Upon the vertex a small electric motor is fixed, and by means of a small lever with ball attachment (an eccentric) the vibration may be made slow, coarse, fine or rapid, as one may deem expedient, and the rate of vibration may be determined. Another instrument made for me by the same firm is a modification of the electric engraving tool, adapted to the administration of vibration to definite points along nerve trunks. Another apparatus that I make use of is one patented and manufactured in Sweden. With this, vibration of any degree may be given to any part of the body, by means of divers kinds of handles, to the trunk, extremities, head, and

even to the larynx and eye. I presume the therapeutic effects of vibration consist of nutritional changes induced by the shaking up of the parts to which it is applied, and of modifications in nerve-impulses from the counter-waves produced by the apparatus.

AUTO-INTOXICATION.

Researches in the physiological chemistry of digestion, as well as observations in many pathological conditions, have established that auto-intoxication from the absorption of poisonous substances generated in the alimentary canal by putrefactive and fermentative processes is not only a real thing, but a frequent factor in the etiology of a number or nervous disorders, such as headaches, neurasthenia, hysteria, neuralgia, and even graver maladies, like epilepsy, melancholia, and mania. It behooves us, therefore, in these diseases to investigate carefully for evidence of any such cause. Periodical or constant attacks of gaseous diarrhea are somewhat indicative of this condition. Frequently the condition of the bowels furnish no information of the actual state of affairs. Recent researches* tend to show that an excess of etherial sulphates in the urine (indican) is a good index of auto-intoxication in connection with other symptoms.

When auto-intoxication is suspected as the causative factor in any nervous disorder, it is essential to regulate the diet in the manner already mentioned, and there are at our disposition a number of intestinal antiseptics which, though not always efficient, are yet often of very great benefit. I have found in my own practice that beta-naphthol is one of the best intestinal antiseptics. I give it in capsules of five grains each, two hours after eating, with water. In several cases of epilepsy salicylate of soda has also proved itself to be of great value. Salol, too, is a good intestinal antiseptic. Sometimes I have made excellent use of peppermint for the same purpose. I think the abundant use of water a necessary adjunct in the treatment, us-

*Herter and Smith, New York Medical Journal.

ually advising the drinking of hot water several times daily on an empty stomach, and sometimes adding thereto frequent flushing of the large intestine with warm water.

MYXŒDEMA AND EXOPHTHALMIC GOITRE.

One of the most remarkable advances of recent years has been in relation to the thyroid gland. I need not dwell too long upon a subject already made familiar by the published observations of many writers. Myxœdema in the adult, and its corresponding conditions in the young, infantile myxœdema or cretinism, are nutritive disorders depending upon a diminished or absent secretion of thyroid juice. While not strictly nervous diseases, they have interested neurologists because in the adult this condition leads to mental dullness and insanity, and the growing brain of the infant and child to retardation of mental devolopment and cretinous or myxœdematous idiocy and imbecility. These conditions are, no doubt, rare in the West, and infrequently met with, but in the great material that is congregated in a large city, it is by no means rare or uncommon. I have observed the results of treatment in some seven cases of myxœdema, and in at least a dozen cases of cretinism, and the effects are truly marvelous, as they have been described. I am about to publish the results of thyroid treatment in two or three cretins that have been under my observation as neurologist to the Randalls' Island Hospital for Idiots.

Now, exophthalmic goitre, or Graves' or Basedow's disease, as you may please to call it, is a malady in which the pathology has been, but is growing less, obscure. Until recently we were content to look upon it as a nervous disease. Nine years ago, in a careful study of this subject,* I wrote:

"In my opinion an anatomical lesion in the cardio-inhibitory nerve-path, or its medullary center, which diminishes but does not destroy its functional activity, is the cause of Basedow's disease."

*Morbus Basedowii. By Frederick Peterson, M. D., New York Medical Record, August 20, 1887.

But in view of the discovery of the function of thyroid gland, which secretes a substance necessary to the proper regulation of metabolism, I am prepared to alter that opinion. There seems, nowadays, to be considerable justification for the theory that exophthalmic goitre is due to either an increased or a perverted secretion of thyroid juice, and probably the former. This seems to be borne out by the strong contrast existing between the symptoms of myxœdema and Graves' disease, by the effects of overdosing in treatment with the thyroid extract, and by the frequently favorable results of compressing the thyroid gland or exsecting portions of it in Graves' disease. On this new theory, and it is more than probable that this is the correct one, the principle of treatment in exophthalmic goitre is to diminish, as far as possible, the amount of thyroid secretion. The exsection of a part of the gland (thyroidectomy) is a medical procedure which is certainly indicated in many cases unless they have already gone too far. It has cured many cases of Graves' disease. Compression of the gland by bandages, or by a special apparatus which I have had made, and which has acted well in some instances, has for its object the same idea. Ligature of one or more vessels supplying the glands may be tried, and I have the conviction that galvano-puncture will one day prove a very efficient means to the same end. It is possible that drugs which diminish secretion (like belladonna) may be useful in certain cases. Perhaps an agent may be discovered ere long which will neutralize the effects of the excess of thyroid secretion in the system, and this is a problem for the physiological chemists.

The remarkable effect of thyroid extract upon general nutrition naturally leads one to consider its possibly useful employment in some of the disorders which we are accustomed to regard as due to nutritional abnormalities in the nervous system, such, for instance, as epilepsy, paralysis agitans, and some forms of insanity. I have been treating for some time ten selected cases of epilepsy, and some cases of paralysis agitans, with thy-

roid extract, but it is as yet too early to draw any inferences from the treatment.

TETRA-ETHYL-AMMONIUM.

There are some nervous and mental disorders, such as neuralgia, sciatica, paraesthesia, neuritis, local paralysis, and occasional psychoses, which depend for their origin upon the rheumatic or gouty diathesis. Where such seems to be the causative factor, I prescribe tetra-ethyl-ammonium, in addition to any other particular remedy indicated. I introduced this drug to the medical profession in an article upon it in the *New York Medical Journal* for September 16, 1893. Its extraordinary efficiency as a solvent for uric acid was discovered by Edison, the inventor, at his laboratory shortly before, and given by him to me for investigation as to its medicinal virtues. It is given in does of ten to twenty drops of a 10 per cent. solution three times daily, well diluted to begin with, gradually increasing the dose if necessary. An interesting point in connection with this drug is that it exists normally in its organism, and it is theoretically possible that a want of it may be responsible for many of the manifestations of both gout and rheumatism. At any rate, treatment with it has been, in my hands, very gratifying in many instances, and it deserves more attention than has as yet been given it.

CORD-STRETCHING IN LOCOMOTOR ATAXIA.

Suspension by means of the Sayre apparatus is a means of treatment in tabes that swept over this country several years ago, and which has fallen almost wholly into disuse; first, because it did not give all of the results it seemed to promise, and secondly, because of the trouble, and even danger (syncope occasionally), involved in its employment. But doubtless the method had in it an element of usefulness, and the very slight stretching of the spinal cord incident thereto was, in a few instances, productive of good. Whatever benefit was derived from suspension may be obtained by a much more simple,

and at the same time much more efficacious method of stretching the spinal cord, viz: the Bonuzzi method, which I recommend to every case of locomotor ataxia in my own practice, but which I believe is not familiar, if it be known at all, to neurologists or general practitioners in this country.

The procedure is briefly thus: The patient lies upon his back on a sofa. The operator lifts up both of his legs and flexes the thighs as far as he possibly can, the patient keeping his knees perfectly extended. The toes approach toward the head, and in this way the back becomes very much arched, and experiments upon the cadaver have demonstrated an actual and considerable stretching of the spinal cord. At first the uncomfortable position is to be maintained for but a few seconds, but the daily or tri-weekly seances may be gradually prolonged to a few minutes or more. I have seen under this treatment some of the troublesome symptoms of tabes disappear, such as the ataxia, pains, and disorders of the sphincters.

TREATMENT OF ALCOHOLISM AND ALCOHOLIC INEBRIETY.*

The treatment of alcoholic conditions may be divided into three categories, in all of which nitrate of strychnia originally introduced by a Russian physician for this purpose, given hypodermatically, I find to be most efficient agent. These three categories are, acute alcoholism, chronic alcoholism or alcoholic neurasthenia, and the alcohol habit.

ACUTE ALCOHOLISM.

1. Cut off all alcohol, and confine to bed.
2. Blue pill at night, followed by saline cathartic.
3. Hot wet pack for sleeplessness.
4. Hypodermatic injection of nitrate of strychnia, gr. $\frac{1}{60}$ to $\frac{1}{32}$.
5. Water, milk, kumyss, broths, soup, meat juice, raw eggs,

* The Treatment of Alcoholic Inebriety. By Frederick Peterson, M. D. Journ. Am. Med. Ass'n. April 15, 1893.

arrowroot, juicy fruits and the like, when there is gastric disturbance.

This is the outline, in short, of a kind of treatment adapted to all cases of acute alcoholism, though bromide and chloral, or duboisine, are indicated in a certain number of instances.

ALCOHOLIC NEURASTHENIA.

1. Cut off alcohol.
2. Hot wet pack for insomnia.
3. Disturbances of the alimentary canal to be met by aperients and dyspeptic remedies (rhubarb and soda, hydrochloric acid and the like). The diet should be milk, eggs and vegetable foods, meats rarely.
4. Strychnia again the main agent to restore nerve tone; best given hypodermatically, but may be given by mouth in combination with quinine, or in fluid extract of cinchona ($\frac{1}{60}$ to dr. j), or in infusion of gentian.

As regards the alcohol habit or alcoholic inebriety, the Keeley cure, while it has made use of no drug not long ago tried by physicians all over the world, served at any rate to bring before the profession the great value of repeated suggestion in the treatment of this class of cases, Most of us have been accustomed to pay too little attention to those cases, and to dismiss them with a prescription and friendly counsel. I wish, therefore, to emphasize the particular advantage of having the inebriate patient come twice daily for a hypodermatic injection of strychnia. It is the continuous attention and suggestion of these daily visits which avail in the disorder, the strychnia of course, acting as a prop to his nervous system deprived of its habitual stimulant. I would outline thus then the treatment of

THE ALCOHOLIC HABIT.

1. The hypodermatic injection of nitrate of strychnia in the doses already given, at least twice daily, more frequently, if possible, and always by the physician himself. The moral influence and personality of the physician are of the greatest im-

portance. By this frequent contact of physician and patient, the effort and attention of the inebriate are kept continually at their highest pitch.

2. A diet of milk, eggs and vegetable foods should be enforced, meat being allowed but once daily.

3. Regular occupation, regular hours, and the avoidance of the society of fast companions must be insisted upon.

4. There is a certain class of patients to whom a substitute for a dram of liquor is at times imperative; when the desire comes on it must be satisfied. The substitute must be immediately at hand. With some of those, a combination of strychnia and fluid extract of cinchona (gr. $\frac{1}{60}$ to dr. j), taken with a glass of water, works very well. It is not always convenient, however, to carry a bottle in the pocket, so I am at times, in the habit of prescribing powders composed of from twenty to forty grains of red cinchona bark, half a grain of capsicum, and three grains of powdered nux vomica, to be taken with a glass of water when required.

NEW THERAPHY IN EPILEPSY.*

Any remedy that offers any sort of success in a limited numbhr of cases of epilepsy is more than welcome. This is one of the most common of nervous disorders, two in a thousand of population being afflicted, and it is also one of the maladies with which the profession has been well acquainted clinically for two or three thousand years. It might almost be called the *opprobrium neurologicum* from the fact that so little has been accomplished during this long period either in regard to its pathology or its cure, We may say, however, that we have recently become more than ever convinced of its manifold pathology. We have come to look upon it more than ever as a symptom of a great variety of pathological conditions. More and more every year do we restrict the number of cases that

---

The treatment of Epilepsy. By Frederick Peterson, M. D. American Medico Surgical Bulletin, Feb. 1, 1895.

may be called truly idiopathic epilepsy. We need to examine our cases with the greatest possible care, in order to exclude conditions which may require some particular treatment, such as trauma, tumor, old meninglal hemorrhage; reflex convulsions from genital, nasal, dental, ocular, or gastro-intestinal irritation, or from old cicatrices; epilepsy due to auto-toxæmia and other toxic blood states. But as in most cases we will find, after the most searching investigation, no cause whatever for the attacks, we are constrained to treat such empirically, and it is to several new empirical methods of treatment that I wish to direct your attention. We will suppose that the bromides and borax and belladonna and the whole category of old remedies have been tried in vain. I will say that Solanum Carolinensis or horse nettle, recently introduced, has had no effect whatever in my cases. On behalf of tincture of simulo, a South American plant of the hyssop family, I can say from an experience of several years that it is perfectly harmless, and that in several instances it has had remarkably good effect where other remedies have failed. The so-called opium-bromide treatment of Flechsig is of great use for many patients, particularly in old and obstinate cases where all other agents have been inefficacious. This treatment consists in the administration of opium for some six weeks, beginning with ½ to 1 grain three times daily, and gradually increasing until 15 grains per day are taken. Then the opium is suddenly stopped, and bromides in large (thirty grains four times daily) and gradually reduced doses are given.

Another new combination with bromides has been suggested by Bechterow, viz: that of adonis vernalis. As you know, adonis vernalis has much in common with digitalis, which has been used in past years in epilepsy, but the employment of the former in epilepsy and conjointly with the bromides is new, and in several of my cases the result has been more than usually gratifying.

I cannot forbear referring here for a moment in closing to the moral treatment of epilepsy, which is certainly new, and

which has not received until lately any of the consideration which it merited. It is only too well known to all of us how epileptics have been dismissed with a prescription and possibly some advice as to regulating their diet, rest and exercise. But the special needs of this peculiarly unfortunate class of dependents had never been brought fully before the profession. No hospitals receive them. The schools cannot take them. No one wishes to employ them. They are ostracised from society, forbidden to take part in the recreations of their fellows, and shunned more or less by everybody. Untaught, idle, sick, neglected, they drift finally into the only shelter offered them—almshouses and insane asylums. But a large majority of them, were it not for their attacks, could be educated in schools, could acquire trades, could enjoy recreation and take a part in the affairs of mankind. Thus it is that a scheme of colonizing them has been undertaken in several of the United States, following the example of Germany and France. I will only allude briefly to the plan already in operation in the State of New York at Craig Colony.* The State has a tract here of nearly 1900 acres of the best kind of agricultural land with already some thirty or forty buildings on it. Here the epileptics of the State already upon public charge are being congregated (there are over 1,000 to be cared for in this manner) and are to be given education in the usual branches of learning, taught every kind of industrial occupation, to be treated for their malady, and be afforded a sort of home in their village life where they will no longer feel their social isolation nor be debarred from the innumerable privileges enjoyed by the rest of humanity.

---

*Papers by the Author—The Bilefeld Epileptic Colony—New York Medical Record, April 13, 1887.

Colonization of Epileptics—Journal of Nervous and Mental Diseases, December, 1889.

Plan for an Epileptic Colony—New York Medical Journal, July 23, 1892.

Care of Epileptics—Journal American Medical Association, September 30, 1893.

Craig Colony—Pediatrics, February 15, 1896.

This moral treatment of epilepsy is by far the greatest stride in advance taken for centuries in the therapeutics of one of the most distressing of nervous diseases.

60 West Fiftieth street, New York.

DISCUSSION.

DR. D. R. WALLACE, of Waco: As desirous as I was to do so, I did not expect, until a few days ago, to be able to be with you.

The paper of Dr. Peterson is just what I expected it to be, a finished piece of work, admirable in every respect. If I were able, there are a great many things I might say in connection with the subjects of the paper. I only have to add my sincere approval and approbation. I am particularly interested in this question of colonization of epileptics. There is more good in it than the public can understand. There is one peculiarity about epileptics. They do not fight each other. As soon as a new one comes into the asylum they take charge of him and do the best they can for him. The most pugnacious epileptics under my charge never fought together; that is a singular fact. I see in this disposition of epileptics, to sympathize with and associate with each other, a potency and promise for good that is immense for humanity; For if there is any class of our fellow-men that needs and should receive the greatest sympathy of everybody because of their utter destitution of everything that contributes to human happiness, it is the epileptic. Gentlemen, I take pleasure in turning over this paper for discussion to abler hands.

DR. C. M. ROSSER, of Terrell: I want to say, first of all, that I have never listened to a paper that interested me more than this. Especially was I delighted that the author did not devote himself to any one thing, but told us the best of all the many things he knows, all of which were important and interesting. I only wish to emphasize the first point of his paper, which occurs to me to be the most interesting to the general practitioner, the man who must first see and advise the families of the insane, and that is the matter of rest. I speak of this because of the fact that for a good many years I made a serious mistake, one which I find other physicians are yet making, in regard to one class of insane persons, those recently insane and subjects of melancholia. Dr. Peterson referred to the importance of rest in mania and melancholia. It occurs to me, and possibly has occurred to all of you, that to prevent the exhaustion consequent to mania, and the tendency to chronic mania, rest is absolutely essential, but it has not so

occurred to many of us in relation to melancholia. The fact is, I have been accustomed, and doubtless you have been, to advise change of scene, activity, and cheering up of persons who are afflicted with melancholia in its incipiency. When we come to consider the fact that melancholia is induced very often from an excess of impressions, not so much, probably, because of an activity of the brain in the inception of ideas as the reception of ideas, it is easy to see, taking that as a basis, that before the brain, which has become abnormal on account of this excess of reception, can be cured, before it can be better, rest, absolute rest, to the brain tissue must be had. Consequently, when you advise your patient to travel, take him to the theatre and to the circus, you are doing the very thing, in my judgment, that is most injurious to the patient, as a rule. Isolate the case, or change the sensibilities, if necessary, by the use of opiates or other remedies, but isolate the patient. Compel his brain to rest, because it has no food for suggestion. When we think of the fact that every organ of the body, except the brain, does take rest; even the heart, apparently all times in action, rests, I believe, one-fourth of its time, and the lungs one-sixth, in the intervals, and then remember that the brain is at work frequently eighteen hours a day, and exercised frequently by dreams at night, days and weeks at a time, no absolute rest of the brain, conceiving ideas and receiving impressions, how natural it is and how reasonable it is that absolute rest must be secured. The remedies the doctor mentioned—massage, electricity, hydrotherapy and others—are, of course, important adjuncts. I was delighted with the paper; I want to read and study it. I wish to thank the doctor personally and in the name of every man interested in this work, for coming to Texas from New York and reading it to us.

DR. DAVID CERNA, of Galveston: I want to refer to one important point in Dr. Peterson's paper, and that is in regard to the treatment and pathology of exophthalmic goitre. He tells us, and I believe it is a possible thing, that exophthalmic goitre is due more to increase than to diminution in the secretion of the thyroid gland. I am inclined to agree with Dr. Peterson in regard to the pathology of this disease. It is my own belief that there must be some pressure on the ideal centres, due to oversecretion of the thyroid gland, and consequent depression of the cardio-inhibitory centres. If there be a diminution of the secretion we do not have enough lesion; we do not have injury to the centres to cause the characteristic symptoms of the disease under consideration; in fact, we do not have enough secretion to produce the normal stimulation to the cardio-inhibitory centres. I am inclined to this belief because I have found also in the administration of digitalis—which is one of the remedies we have used with success in

exophthalmic goitre, and whose chief action is as an inhibitory stimulant—that when there is a diminution in the secretion of the thyroid gland, and give digitalis, we supply energy to the depressed inhibitory centres, which may and does seem to do good. Now, sometimes digitalis fails, and it is, perhaps, in these cases where we have an oversecretion of the thyroid gland; then in these cases we might do more harm than good. Again, in the administration of thyroid extract it is very possible that thyroid extract, in certain cases of cardiac depression, is good, because we supply energy to the cardio-inhibitory centres; but in many cases thyroid extract fails, because, probably, in these cases we have already an oversecretion of the thyroid gland, and hence we get no result. Now, in studying very carefully the action of digitalis, and the pathology and symptomatology of exophthalmic goitre, I have found them similar, and you must remember that in many cases of poisoning by digitalis in its last stages we have symptoms very much similar to what we have in exophthalmic goitre, enlargement of the thyroid gland. and exophthalmos; this latter a very peculiar symptom of digitalis poisoning.

INFLUENCES OF CLIMATIC CONDITIONS AND WEATHER CHANGES ON THE FUNCTIONS OF THE SKIN.

ISAAC M. CLINE, M. D., A. M., Ph. D.
Lecturer on Medical Climatology, School of Medicine University of Texas.

GALVESTON.

The intimate relations existing between the functions of the skin and the functions of certain other organs of the body make a clear understanding of any conditions which materially influence these of great value in studying the advancement of the science and practice of medicine. The necessary, and to a greater or less extent unavoidable exposure of the skin, only in a variable degree and partially protected, to weather changes and climatic conditions, makes it evident that such changes and conditions play an important role in connection with the part which this important organ has to perform in the economy of the human system.

In this paper the following functions of the skin, as influenced by weather changes and climatic conditions, are considered—

1. Secretion and excretion, viz: (a) The secretion of sweat. (b) The respiratory excretion. (c) The secretion of sebaceous matter.

2. The regulation of the evolution of heat.

The influences of climatic conditions and weather changes on the skin, as an organ of secretion and excretion, are very marked, and of great importance. It has been determined that 30 per cent., and probably more, of the water given off from the system is through perspiration and cutaneous evaporation. There are also given off some organic acids, such as gormic, acetic, butyric, propionic, capric and caprilic, salts chiefly chlo

ride of sodium, some phosphates, and carbonates, neutral fats and cholesterin, extractive matters and urea.* As regards the amount of cutaneous secretion and excretion, the most reliable determinations which have been made indicate that a healthy person loses by the skin 1-67 of his body weight in twenty-four hours† While no direct observations have been made concerning the extent to which these secretions vary with different climatic conditions and weather changes, we have laboratory experiments to guide us, and we may also reach the effects of such influences in a general way by the application of physical laws. Secretions from the skin increase and decrease with certain atmospheric conditions, which are dependent mainly upon temperature. Temperature and absolute humidity (which is governed in a great measure by temperature) are the principal conditions to be considered. Air at a temperature of 32 degrees can contain only 2.13 grains of vapor of water per cubic foot, while at a temperature of 80 degrees it can contain 10.95 grains of vapor of water per cubic foot, which is 8.82 grains, or four times, more than that which it can contain at a temperature of 32 degrees. From this it is found that a relative humidity of 70 per cent.. with an atmospheric temperature of 32 degrees, would leave a capacity for vapor of water of only 0.74 grains per cubic foot of air, while a relative humidity of 70 per cent., with a temperature of 80 degrees, would leave space in the surrounding atmosphere for 2.65 grains of vapor of water per cubic foot, or for more than the atmosphere can contain at a temperature of 32 degrees. At ordinary temperatures the capacity of the atmosphere for moisture (vapor of water) is doubled, or diminished one-half, respectively, with a rise or fall in temperature of 18 degrees. Such being the facts, we must look to temperature and absolute humidity as the main climatic factors which influence secretions from the skin. In the effects of weather changes, temperature plays the most important part in influenc-

---

*A system of Genito Urinary Diseases, Vol. III, p. 28. By Prince A. Morrow, M. D.

†Human Physiology. Landois and Stirling. Fourth edition, p. 228.

ing the secretory and excretory functions of the skin. A fall in temperature of the surrounding medium causes contraction of the cutaneous vessels, probably through its reflex effects on the vasso motor nerves, and the skin becomes dry and collapsed, and offers increased resistance to the passage of fluids so that the secretions are diminished, and in addition to this the lessening of the capacity of the atmosphere for vapor of water with lower temperatures leaves a smaller tendency to evaporation which further adds to the conditions which tend to retard the elimination of water, etc., through the skin. With a decided rise in temperature there is a converse condition, the dilatation of the cutaneous vessels with an increased flow of fluids to the surface of the body with which, if the rise in temperature is sufficient, the skin becomes red and congested, and the secretion of the sweat is increased. Increased temperature of the surroundings causes the skin to become red while there is profuse secretion of sweat. Cold arrests this secretion. From this it is readily recognized that the amount of secretion through the skin must vary materially under the conditions which exist in the atmosphere at different times and places. The smallest amount of such secretions are given off in cold, relatively moist localities, and the greatest amount in dry warm localities. Changes in temperature from day to night, or from sun to shade, change the amounts of secretion to an extent depending upon the change in temperature experienced and the humidity present.

The same general distribution of climates is applicable here as in their relations to general pathology, viz: low damp cold climates; low damp warm climates; and high dry climates.*

The smallest amount of secretion through the skin takes place in the low damp cold climate, where this work devolves upon other organs, particularly the kidneys and lungs. The reasons for this are obvious, since the winter temperature is low and the relative humidity high, with a necessarily small absolute

*For a more specific description of these classes of climate and chart showing their distribution in the United States see proceedings Texas State Medical Association, 1895, pp. 92-114, or reprint from the same.

humidity. Decided changes in temperature are also frequent, even the highest of which give a high relative but low absolute humidity. Notwithstanding the relatively high summer temperature of this character of climate, the elimination of water through the skin is less here in summer and more irregular than in any other class of climate, as the range between day and night and sun and shade temperatures are more marked than in other damp climates, and decided changes in temperature are more frequent.

In the low damp warm climate the temperature is high and uniform, but at the same time a high per cent. of saturation exists, which makes this climate somewhat similar in its effects to the preceding. In this climate the conditions of the atmosphere favor the influx of the blood into the capillaries of the skin not only in summer, but to a great extent even in winter, and thus keep the sweat glands in continuous action. The high temperature, notwithstanding its relatively high humidity, still leaves a greater margin for evaporation than in the low damp cold climate, and the amount of water given off through the skin finds conditions favorable for its elimination. In the summer there is a greater similarity in the influences of these two classes of climates on the secretory functions of the skin; but there are certain well defined conditions at this season which draw the line of demarcation, the most prominent of which are the ranges between day and night and sun and shade temperatures, which are greater in summer in the low damp cold climate than in the low damp warm climate. These greater changes and ranges in temperature in the low damp cold climate make the secretions less uniform, and the amount is quite variable, while in the low damp warm climate, where the temperature conditions are more equable, the amount of secretion through the skin is greater and more uniform. A larger proportion of water is given off from the skin here, at nearly all times, than in the low damp cold climate.

In the high dry climate the conditions are relatively favorable, at all times, for the elimination of water through the skin.

The amount of vapor of water present is always small in proportion to the capacity of the atmosphere for moisture, and as a result rapid evaporation takes place constantly from moist surfaces. In this character of climate a greater amount of water is eliminated through the skin than in any other climate, and these secretions are taken up so rapidly by evaporation that perspiration is nearly always imperceptible. Since there is an annual variation in evaporation, there is also an annual variation in the secretions through the skin; the greatest amount is eliminated in summer and the least in winter. In all climates a rise in temperature increases the capacity of the atmosphere for vapor of water, while a fall in temperature lessens the capacity.

The respiratory excretion, which is principally in the form of carbonic acid gas CO_2, is small, being only about 1-220 of the total amount given off from the body, but no doubt it is increased and diminished as a whole in the same manner as the secretion of sweat, as the organs concerned are the sweat glands, or rather their tubes, moistened as they are with fluids and surrounded by a rich net-work of capillaries.

There is very little, if any, climatic effect on the sebaceous secretion. It is probably diminished in cold weather and with falls in temperature, and increased in warm weather and with rises in temperature.

The function of the skin in the part it plays in controlling the evolution of body heat bears an intimate relation to the preceding functions. The amount of heat produced depends upon the metabolism which takes place; therefore, when the metabolism is increased or diminished, the amount of heat is also increased or diminished, as the case may be, and among the factors which increase or diminish this are temperature changes. The temperature of any part of the body depends to a large extent upon the amount of blood in the organ, and also upon the rapidity with which the blood is renewed by circulation. Liebermeister pointed out a difference in temperature with regard to the external and internal parts of the body. The external parts give off more heat than they produce, so that

their temperature diminishes the more slowly the blood flows into them, and consequently are warmer as the blood stream flows more rapidly. Acceleration of the flow of blood causes the temperature of the peripheral parts to reach nearer and nearer that of the internal organs, while a retardation causes the external parts of the body to approach the temperature of the surrounding medium. The slower the velocity of circulation the greater is the difference of the temperature between the peripheral and internal parts. As the bodily temperature of man is nearly constant notwithstanding the great variations in the temperature of the surroundings, it is evident that some mechanism exists in the body whereby the heat economy is constantly regulated. The application of cold causes more active metabolism by bringing about both voluntary and involuntary muscular movements when the co-operant factors for the regulation of bodily temperature are in their normal condition; and the application of heat has the reverse effect; this action is, however, only temporary, after which direct cooling or warming is experienced, and unless controlled in some way, this loss or gain in heat would be injurious in diminishing or increasing the body temperature. Accepting the theory that within the body there exist mechanisms which determine the molecular transformation upon which the evolution of heat depends, it appears that the skin is the governor which maintains the temperature of the body within narrow limits, for, according to the results of Dulong, 87.04 per cent of the heat excreted from the body is through the skin; 15.37 per cent of this is extracted in the evaporation of water from the skin, and 71.67 per cent is radiated and conducted from the skin to the surrounding atmosphere. This must vary materially under different climatic conditions. In cold weather the continued low temperature causes contraction of the cutaneous vessels, and not only checks the secreting of sweat, the evaporation of which uses heat from the body in the transformation of water into vapor, but the transverse thermal conduction of heat through the skin is diminished by the contraction of the cutaneous vessels and the

expulsion of the blood (which is a good conductor of heat) from the cutaneous and subcutaneous regions. The conduction of heat from the body is diminished when the amounts of fluids near the surface of the skin are lessened. Moist air is a better conductor of heat than dry air;* hence the conduction of heat from the body to the surrounding atmosphere will be increased and diminished with the absolute humidity. According to investigations of Stewart and Masje, the amount of radiation from the surface depends on the difference between the body temperature and that of its surroundings and its co-efficient of emission, and the chief factor in determining the amount of radiation is the temperature difference. With a low temperature there is no check to radiation, except in so far as it can be modified by precautionary measures, such as clothing, etc. Any fall in temperature, as well as change in temperature from day to night, or from sun to shade, increases radiation, and the increase in this is in proportion to the changes experienced. In warm weather, when the cutaneous vessels are dilated, and the skin is gorged with fluids, it becomes a better conductor of heat, and in addition to this, the secretion of sweat becomes greater with an increase in the warmth of the surrounding atmosphere. When the sun and air temperatures are higher than the temperature of the body, exposed to these, the radiation and conduction of heat from the skin are not very potent factors in influencing the temperature of the body; under these circumstances the abstraction of heat in the evaporation of sweat becomes the prime factor in regulating the body temperature through the skin. When the air temperature is below that of the body, all of these factors play a certain part in this respect.

The same general divisions of climate, as already cited, will apply here. In the low damp cold climate, the elimination of water through the skin is small in winter, and hence the heat used in vaporizing this is very little, consequently about all the heat that is given off from the body in this climate in winter is

*Meteorology—Prof. W. M. Davis, p. 145.

by radiation and conduction. In summer, particularly during the day, radiation and the abstraction of heat by evaporation of the sweat secretion are the prime cooling factors. The condiditions are somewhat different at night, for then the extraction of heat in the evaporation of sweat decreases, and the excretion of heat, both by conduction and radiation is materially increased; similar effects, but less marked, are experienced in changing from sun to shade temperatures during the day, especially when the shade temperature is somewhat below the body temperature, which is generally the case, except occasionally early in the afternoon. The sudden changes in temperature experienced in this climate, as well as the large diurnal variations, cause a material variation in the amount of heat given out from the body to the surrounding atmosphere, which must result in irregularities in heat transformation.

In the low damp warm climate, where a more uniform condition of temperature exists, the shade temperature rarely reaches the body temperature. The factors which favor the excretion of heat are small in this climate on account of the nearness of its temperature to that of the body, particularly in summer. In winter radiation and conduction are the principal factors which favor the loss of heat from the skin in this climate. Radiation, even, in winter, is relatively small. The high, absolute, as well as relative humidity, favor increased conduction of heat from the body to the atmosphere, and it is partly due to this that changes in temperature in this climate are so perceptible to the body. The unpleasant effects of these special climatic features may, in a great measure, be avoided by frequently stimulating the skin by the use of cold baths and washing with cold water, which cause the muscles of the skin and its blood vessels to contract and become vigorous and excitable, so that when cold suddenly strikes the body or a part of it, the excretion of heat is energetically prevented. Cold baths and cold water for washing keeps the skin stimulated so that it contracts readily on being exposed to lower temperatures and

drives the blood from the capilliaries, and thus, in preventing the excretion of heat, protects the body from cold.

In the high, dry climate the extraction of heat in transforming the water secreted from the skin, is greater in both winter and summer than in any other class of climate. In this character of climate the effects of conduction are always at a minimum on account of the dry air being a poorer conductor of heat than air containing a large amount of vapor of water. Radiation is relatively great in this class of climate. The abstraction of heat and vaporizing moisture from the skin is large at all seasons, and it is through this agency and radiation that the greater portion of the heat excreted in this climate is given off.

A careful understanding of the influences of weather changes and climatic conditions on the functions of the skin are most valuable in the treatment of many diseases, not of the skin, but of other organs where a change in climate might be made so as to relieve such organs of a portion, at least, of their work or influence their functions indirectly through the effects of climate and weather changes on the skin.

"THE TREATMENT OF APPENDICITIS CONSIDERED FROM A GENERAL STANDPOINT."

A. H. SCHENK, M. D.,

KINNEY.

Recognizing the triteness of the subject of my paper, I wish to offer, as an apology for its preparation, the fact that appendicitis, as a border-line disease between the domains of general medicine and surgery, has not always received the broad consideration that it merits. I am aware of the existence of statistics which indicate that 85 to 90 per cent. of cases of appendicitis recover without active treatment. The reports of Maurin and Hektoen have also come to my knowledge. These gentlemen, in several hundred autopsies made on persons who, during life, were not suspected to be suffering with the disease, found that 16 per cent had peri-appendicular adhesions—and some were found with perforation of the appendix. However, statistics are not conclusive, and their deceptive nature can be easily pointed out. The surgical side of the treatment has found its promoters; and as a result the treatment of appendicitis, from a surgical point, has received attention by some of our ablest surgeons in a manner that can not be called dispassionate. While our journals have printed many valuable papers on the subject by surgeons, we discern that the charitable general practitioner is maintaining a silent attitude; he bows his head in humble submission and allows the zealous surgical brother to forage in his ever-narrowing field of usefulness. We may use as an argument that appendicitis has aspects which concern the physician as well as the surgeon, the fact that surgeons like Shrady, Lanphear, Hunter McGuire, counsel rational conservatism; and among medical men, Hennoch, Beverly Robinson, Larrabee, Bailey and Turner Anderson, are emphatic

in denying the right of indiscriminate surgical intervention in all cases where signs and symptoms point to an inflammation of the appendix. Some very noted and venerable medical teachers have stated that appendixectomy is only a fad and is rarely, if ever, indicated. This opinion is extreme; however it will serve to illustrate that the ardent advocates of radical treatment in every case have come into unfriendly collision with other men also ripe in experience; and it is apparent that on the treatment of diseased conditions of the right iliac fossa, the surgeon must be wary not to make far-reaching positive statements, if he does not wish to loose the confidence of his brother in general medicine. The danger of specialism lies in the growth of enthusiasm for the chosen specialty, and we may be pardoned for suggesting that autosuggestion is unawares creeping into the judgment of men who can only see a surgical side of a diseased process. Individual experience frames firm convictions, however, in medicine sweeping statements should be made with due care, in proportion to the gravity of the subject. The occurrence of a large number of serious cases in the practice of one man will naturally have a tendency to produce views quite at variance with those gained in the experience of an equally competent man who has seen a number of mild cases of the same disease; and the conclusions of both might be, and very probably are, fallacious. The emphatic dictum, "when in doubt then operate," has been often repeated, and the advice that each case should be attended by a physician and a surgeon, has been urged by surgeons as well as by general practitioners. Such instructions are easily given by our metropolitan brethren, however they grate on the ear of the conscientious country physician who, unfortunate in his location, has no surgeon to consult and is compelled to consider surgical and general cases through the same spectacles—as he was taught at his *alma mater.*

We will not, as a rule, be classed among the pathfinders, yet we are on the lookout to avoid the pardonable mistakes of those who have gone before us, and we can offer testimony to the proof of our skill by a per cent. of recoveries that will equal

those given by men situated more favorably to centres of medical learning.

Professor Osler, in the last edition of his work, advised operation "when the general symptoms are severe and when by the third day the disease seems progressive.". He says: "It is well recognized that a large proportion of all cases recover. It is the element of uncertainty in individual cases which has given such an impetus to the surgical treatment of appendicitis." In my opinion the element of uncertainty in diagnosis should deter the attendant from overhaste in entering the abdominal cavity. The pathological conditions that have been mistaken for appendicitis are varied, and a collection of cases wherein the appendix was removed unnecessarily would be an enlightenment on the question. In the Louisville Medico-Chirurgical Society, March 9, 1895, a young surgeon demonstrated catarrhal closing of a removed appendix in which several old physicians could see nothing abnormal. This is only one instance of a number of this kind that have come to my notice. When the incision has been made, the temptation is naturally great for removal of the notorious process even though it be slumbering in healthful innocence. We are told that an exploratory incision is harmless. Exploratory incisions may well be considered as easy as they are interesting, albeit, the object in resorting to them is in late years as often the experience gained thereby as relief to the patient. It seems to me practically demonstrated that all inflammatory swellings in the right iliac fossa should be regarded with suspicion and sedulously watched, but with our present knowledge serious signs and symptoms should be the indication for operative action. The surgeon who advises the opening of the belly in all these cases without individualizing, can not defend his position from a scientific standpoint. We, as physicians, must be guided by general rules in a general way; at the same time he who treats disease ignores his patient, is radically wrong. Death has often been attributed to delay in procuring surgical aid. This argument has a certain weight, can, however, be applied only to each particular case. In rebuttal to this, I

have been prepared, in three instances, to operate for appendicitis when indications seemed pressing. Fortunately my clientele, composed of sturdy farming people, were not on good terms with keen-edged steel and the operating table. An operation was refused, and recovery resulted without. Their escape has made me the subject of unpleasant criticism. These cases are apparently well now and are laboring hard each day. I am sure they had an inflamed appendix with infiltration of the peri appendicular tissues, and time can only tell whether they will remain cured. But do not our surgical brethren claim cures in removal of cancer of the breast when the three year limit has passed? The question arises whether the cases in which death is attributed to late surgical treatment were not infected with a virulent poison from the beginning. If so, earlier surgical intervention would have been of no avail. Lymphangitis and fatal cases of bloodpoisoning follow insignificant surface lesion, in which destruction of the initial point of infection does not stem the process. A new wound may in such instances offer a new point for invasion and of irritation. The cases in which there is the least swelling are indicated as those in which procrastination is most dangerous, which serves to prove that virulence of infection plays a prominent part. There is yet much to learn about the different pus-forming bacteria, why at times they are virulent and at times harmless, and the relations of the different kinds, one to the other. The presence of bacteria in the cæcum is sure, and an intracæcal irritant might make this a prime focus of infection, and the appendix, rich in lymphoid structure, might become secondarily involved. When the cæcum is the source of the poisonous agent, which gives the inflammation its gravity, we can not hope to save all cases whether we operate early or late, since it is impossible, by reason of contiguity, to keep from infecting the stump left by the operation. The blood supply of the appendix, derived from its mesenteric artery, also indicates that gangrene is due to virulence of infection. The rapid dissolution which follows some of these unfortunate cases does not justify the emphatic statement that

earlier intervention would have saved life. The marvellous toleration, evinced by patients suffering with the very chronic form of the disease, prove that the toxic agent governs the future of many cases. A recent author, who believes in operating promptly in all cases, says the removal of a healthy appendix need cast no opprobrium upon the operator in case the patient recovers. Such teaching casts its own shadow. With the admission that laparotomy is a comparatively safe operation, it seems an effort to stem this tide of thought is urgently in need. There was a time when every tender ovary or a thickened tube was removed without hesitation by conscientious men. Time has passed, and the pendulum hangs at the point marked conservatism. The dictum, "when in doubt then operate," needs modification, and should not be accepted without guarded caution by the general practitioner.

In regard to the uncertainty of diagnosis of appendicitis, Dr. Shrady, in No. 1, Vol.45, *N. Y. Medical Record*, published an articlewhich bears re-reading. He speaks of the difficulty of diagl nosis and is candid to admit the danger of operating in all cases. He mentions the removal of an appendix in a medical man who was suffering from neuralgia, and then playfully congratulates the credulous victim with the soothing words, that "he can graciously patronize those of his acquaintances who are not so fortunate in being rid of a quarrelsome and non-insurable tenant." His closing words are: "In the doubtful cases the line has not yet been drawn, absolutely, between watchful patience and unwarranted exploration, and will not be until our means of diagnosis are more patiently perfected and the relatively significant symptoms in their proper sequence are still more carefully studied."

Prof. Bull's tabulation of cases operated on finds frequent quotation to prove the harmlessness of operating. His frank acknowledgment of mistaken diagnosis in the article (March 31, 1894, *N. Y. Medical Record*,) does not find frequent mention. The following extract from his first paragraph I give in full. "All these operations have been done because of acute attacks so fre-

quently repeated as to tend to the belief that there was a chronic appendicitis which had no tendency to disappear spontaneously, or with the aid of medical means. These attacks interfered with the occupation of the patient, etc. In about the same number of patients I have advised against operation, etc." The constant search for unfailing remedial measures in the treatment of disease will never be gratified with results forthcoming. This search, coupled with desire for notoriety and mercenary motive, is poisoning all the atmosphere of legitimate medicine by degrees. The quiet looker-on has scarcely resumed his mental equipoise after the startling announcement of some new cure, remedy, or operation, when the daily paper shouts the panacea of some other would-be benefactor to the world. On the other hand, grim death is busy as of old, laying his icy fingers on the young and aged, and will forever. The following few cases, which I have met with in my practice, are not of great value. They occurred among people, who, in seeking relief, had no choice between physician and surgeon, but by necessity were compelled to send for a doctor. Each patient is an acquaintance whose present condition I have taken pains to ascertain for this report. Only such cases are mentioned as had typical symptoms of appendicular inflammation. From time to time, as occasion presented, I examined the cases to look for remaining tenderness, decided swelling, etc., by palpation. There may possibly have been error in diagnosis between appendictis and cæcitis, but I have excluded some cases of inflammation of the cæcum. When the cæcum is involved the general depression is not so great, and the rigidity of the abdominal muscles is rarely marked. The pain is seldom acute or lancinating. There is, as a rule, a history of previous malaise.

Case 1.—Miss B. S. Aged 18. No previous history of importance. Was found with a temperature of 101° F; pulse 120; respiration 26. She was restless and very nervous. She had intermittent spells of retching. There was an intermittent colicky pain, which originated in the right iliac fossa. Rigidity of the right half of the abdominal muscles was marked, and a local

point of tenderness in the McBurney area. A slight tumor was visible. After confinement to bed for two weeks she arose, suffering with a diarrhœal trouble, which gradually yielded to medication. For nearly two years after this spell the thickened appendix could be felt through the abdominal wall, and was tender. There has been no recurrence of the trouble. She has since married, and given birth to three children. The attack occurred in the spring of 1890. I recently examined her, but found no tumor, and there remains no tenderness.

Case 2.—Sophia S. Aged 12. This little girl was suddenly seized on a Sunday afternoon with shooting pains in the right side and vomiting. On Monday I saw her with a temperature of 102½° F; pulse 120 and rapid breathing. The right abdominal muscles were tense, and there was tenderness over the appendix. On Tuesday she was worse; the fever had risen to 103° F.; her pulse was weaker and a few beats faster, besides a swelling was visible in the iliac region. On Wednesday there was no abatement of symptoms, and she showed signs of exhaustion. An operation was proposed, but consent not gained. On Thursday there was no change. On Friday there was subsidence of fever, and gradually she became convalescent. This patient I saw in 1892. She has had no attack since; does hard work, and the disease has left no trace behind.

Case 3.—Henry S. Farmer. Was seized suddenly at night with violent pains radiating in all directions of the abdomen, and with nausea. His temperature was 100° F.; pulse 110, and bounding; respiration normal. Patient was very restless, tossed from one side of the bed to the other. He was unable to locate the pain. The muscles of the right side were found rigid, and a tender point with some tumefaction was found over the cæcum. He remained in this condition for three days, when the fever and pain subsided, and the patient returned to work twelve days from the first day of the attack. This was in the spring of 1893, and he has since been doing hard work, and has remained well.

Case 4.—Christian C. Aged 60. Farmer. Became sick suddenly with acute pain in the right side. His temperature was

101° F.; pulse 100, and bounding. He had been suffering two days, and had his thighs flexed on his abdomen. A large swelling was plain over the cæcal region. The whole area was tender under pressure. He was very restless and uneasy. After three days the acute symptoms subsided, and the man gradually returned to normal. In this case there was general tenderness and rigidity of muscles. After swelling subsided and the patient bore pressure, I could feel a Vienna-sausage-shaped tumor lying on the inner surface of the wing of the ilium. It was movable, and has disappeared. His sickness dates February, 1894; to-day he is well and does heavy plowing.

Case 5.—Fred M. Aged 10. Was taken with a sudden severe pain in the abdomen and retching. I found him with his thighs flexed, an elevation of temperature and rigidity of the right abdominal muscles. There was a slight swelling over the cæcum, and a local spot of increased tenderness. These signs and symptoms disappeared in four days, and the lad gradually returned to normal. Two weeks after the attack there still remained some tenderness, and a slight rigidity of the muscles. He is at this writing sound, and does hard labor every day. His sickness dates 1894.

Case 6.—Max P. Aged 20. Farmer. Came to my office with a feeling of uneasiness in his right side, and complained of intermittent darting pains. He had a furred tongue. Temperature 102° F.; pulse 120. In his slow walk he inclined to the right side markedly. The muscles on the right side were rigid, and there was a circumscribed very tender spot with some swelling in the cæcal region. He was put in bed, and an uneventful recovery has resulted. This occurred in the fall of 1894. He has no trace of the disease now.

Case 7.—Otto F. Aged 27. Farmer. Was suddenly seized with violent pains in the right iliac region, and with constant vomiting. He was found bathed in perspiration, with a temperature of 102° F.; pulse 100, and bounding. There was a marked rigidity of the right abdominal muscles, with great tenderness over the entire abdomen. There was a local increased

tenderness over the appendix. He had an anxious expression, and was unable to turn in bed. His thighs were flexed. A tumor made its appearance in twenty-four hours, and this increased for three days. On my third visit I suggested an operation, but received no consent. Dr. D. H. Brewer now saw the case with me. He agreed with me in diagnosis, and thought an operation the best course to pursue. The symptoms now gradually subsided, the fever with the tumor disappeared, and patient was able to resume his work after four week's sickness. There remains no tenderness of the inflamed region. This patient presented the appearance of a dangerously sick man; at the same time his pulse never rose above 110 pr. m.

Case 8.—Christian S. Aged 48. Farmer. Called at my office on account of a mild lancinating pain, which was getting worse, in his right iliac region. He had loss of appetite, but no elevation of temperature. An examination revealed tenderness of the appendix and cæcum. The appendix could be felt through his thin muscular wall, and was resting, with its terminal end outward, on the inner surface of the ilium, where it was adherent but slightly movable. It was enlarged, and of firm consistence. He was put in bed with resulting improvement, and in a week resumed his farm work. There was an immediate recurrence of pain, and a more marked swelling of the appendix. The muscles were now rigid, and he had his thighs flexed. I advised removal of the appendix, but he deferred action. In twenty-four hours the tumor was disappearing, the symptoms abated, and recovery followed. The adherent appendix can still be felt, but it is not tender, and gives rise to no discomfort. This case was in bed over one month ago; he is now doing heavy farm labor.

Four cases have come under my observation that belong under a surgical head, and will not be mentioned herein. My conclusions are that appendicitis is a disease not purely surgical, but it can be treated scientifically by an intelligent general practitioner.

2. That conservatism should be practiced unless general

symptoms indicate danger, such as pinched, anxious features, restlessness, weak, small pulse, or in chronic, relapsing cases.

3. That indiscriminate surgical treatment is wrong, (1) because of uncertainty in diagnosis, (2) slight and harmless intra abdominal pains give rise to alarming symptoms in many patients.

4. Every case of this kind should be watched with every care by an intelligent nurse, and the attendant should spare no number of visits to satisfy himself of the safety of his patient.

5. Morphia, if intelligently used, relieves the patient, and does not obscure the symptoms unless given in poisonous doses.

6. Saline laxatives or castor oil, combined with minute doses of tincture of opium, deodorized, and aconite, are indicated, and can be used with safety.

7. Call in a surgeon early as a consultant if you are so located; but avoid the operator who rides a hobby-horse, and who can only discuss the surgical side of a question.

HÆMATEMESIS—REPORT OF A CASE.

W. R. BLAILOCK, M. D.,

M'GREGOR.

Hæmatemesis, according to the best authorities on the subject, may be idiopathic, vicarious, traumatic, result from diseases situated out of the stomach, as ulcer of the duodenum, diseases of the liver, of the spleen, of the heart, to changes in the blood, to eroding ulcer or ulcers, or to cancer of the stomach.

It may be doubted, if idiopathic hemorrhage in the sense of epistaxis occurring in young persons ever occurs in the stomach.

Vicarious hemorrhage from the stomach occurs occasionally in females.

Gastric ulcer and cancer give rise to hemorrhages more frequently than any of the other causes.

It is not the purpose of this paper to enlarge upon the various causes producing, nor conditions existing in hæmatemesis, and the only reason for the brief resume of causes above enumerated is to show that the principal causes of gastric hemorrhage have not been overlooked in the following case.

J. G., male, aged 42, usual weight 185 pounds, height 5 feet 10½ inches, well proportioned, occupation, merchant.

Twenty years ago had a severe spell of continued fever; three years afterward had dysentery, followed one year later by another spell of continued fever. These constitute the only serious sickness he has ever had up to the present attack.

Family history shows that mother died, aged 55 years, from a pelvic tumor. One sister had a uterine tumor, which was supposed to be a mural fibroid, but has since given birth to a child, and is now in good health. A younger brother has general

dropsy, supposed to have resulted from chronic malarial fever. Three brothers and three sisters, in addition to the two mentioned, are living and in good health.

The patient has always been strictly temperate, has never used whisky nor malt liquors, has smoked cigars occasionally, not regularly. In his eating, has been prudent, except for two or three months preceeding the commencement of the present illness, did not take his meals regularly.

On December 3, 1895, was taken during the forenoon with pain in stomach, which continued to grow worse until night.

He described the pain as being of a gnawing character, situated deep down and to the right, in other words, located it toward the pyloric end of the stomach. Tongue clean, temperature 100 degrees, bowels had not moved during the day.

Gave clyster of warm water and soap, securing a few copious evacuations. Gave morphia hypodermatically and left four ¼ gr. calomel tablets to be given at intervals of two hours, and to be followed by a dose of salts next morning, and a few doses of quinine to follow this. The calomel and salts acted thoroughly, the stools being dark green in color.

December 5th, was recalled, found about the same condition and repeated the treatment.

December 6th. Bowels moved well but less bilious in color, pain and uneasiness in stomach, not so pronounced but still present.

December 8th. Bowels moved several times, slight accumulation of gas in bowel. Prescribed bismuth, accacia and tr. of opium.

December 9th. No. fever; bowels checked but still has discomfort in stomach.

December 11th. Feeling well, taking nourishment; temperature normal.

December 12th. After sleeping well during the previous night, was sitting up leaning or resting head on the right hand when a sharp lancinating pain started in the stomach, followed by vomiting a large quantity of blood. Temperature fell to 96

degrees and remained subnormal several hours. Bowels moved on the 14th, the stools being black and offensive.

After this hemorrhage all uneasiness disappeared from the stomach, the temperature remaining normal. Patient lay on right side with thighs flexed at right angles with the body. On assuming dorsal decubitus or inclining to the left side an uneasy feeling was produced in the stomach.

December 19th. While lying motionless in bed and without other warning save a sharp pain well to the right of stomach and deep down, another hemorrhage occurred. In a short time dark blood was ejected from stomach. The vomiting continued at gradually lengthened intervals for several hours. Temperature was lowered to 97½ degrees, but on the 20th it registered 100 degrees, where it remained for only a short time, and again fell to normal. On the 20th dark bloody fæces passed.

On the 23rd and 25th of December, and January 4th, violent pains were felt (the patient said his stomach was drawn into a hard mass or knot) followed by dark bloody stools on the second day. No vomiting followed either of these attacks, although there was nausea following each one.

January 8th. Very severe hemorrhage as was evidenced by vomiting a large quantity of dark clotted blood and followed by the usual dark bloody discharges by stool.

January 16th. Slight pain and contraction of stomach followed by vomiting of dark blood and the usual fœtid dark or black alvine discharges.

February 9th. Was feeling unusally well, had gained strength steadily since the last disturbance, which occurred on January 16th. The face grew suddenly pale; a severe pain rather too low down for the stomach was complained of by the patient. I lifed the cover and found the rectus muscle on the right as rigid as a board, while the one on the left was not the least contracted. After a short interval, perhaps thirty seconds, the muscle on the right relaxed, and very soon the muscles on both sides of the abdomen became involved in clonic convulsions. In the course of a minute or two the stomach had

become contracted into a hard ball, and was forced back against the spinal column. The contraction in the stomach started at the pyloric end and advanced toward the cardiac end until the whole organ seemed to be involved. In a very short time vomiting ensued, at first red blood, but followed by gradually darker and darker blood clots until it became very dark. Vomiting continued three days, and only stopped after the introduction of bismuth S. N., and predigested beef juice into the stomach. This attack, like all others, was followed by black discharges, composed mostly of blood, which had been changed during its passage through the bowels.

March 15th. Great improvement in strength; patient sitting up some every day, and occasionally walking across the room. The usual expedient resorted to, i. e., enemata to secure discharges from the bowel had failed for the past two or three days to accomplish the purpose. A severe pain was experienced in the bowel, followed by copious alvine discharges. Vomiting ensued, at first of a tough mucus, followed by a dark grumous matter that was blood changed by gastric juice.

Vomiting continued eight or ten hours, and the patient was apparently as strong as he was before the vomiting commenced. No dark alvine discharges followed this attack, as was the case in each of the previous ones.

The most painstaking examinations of the heart, liver, spleen, lungs and duodenum have failed to reveal anything abnormal. The stomach is enlarged, and the only information elicited by palpitation is a mere suspicion of tenderness over the pyloric end of the stomach.

Drs. Graves and Hale, of Waco; Dr. Black, of McGregor, and Dr. Saunders, of Fort Worth, saw and examined this case with me.

From the first hemorrhage which occurred on December 12th, to February 9th, when one of the severest of the whole series was ushered in, food was given mostly by rectum; what he took on the stomach was predigested and absolutely liquid! For the

four weeks preceding February 9th no food had been given by the stomach.

The medicines given during this time were directed, (1), to check the hemorrhage and relieve the nausea; (2), to prevent extension of the ulceration in the stomach and heal those ulcers already existing. Absolute quiet, or as near so as was possible, was enjoined and maintained from December 12th to February 9th. For the first crushed ice taken into the stomach, hypodermatics of morphine and ergotine, red gum tablets, and fl. ext. ergot with tr. opium were all tried at different times: crushed ice and morphia hypodermatically giving better satisfaction than any of the rest.

To meet the second indication bismuth in the form of subgallate 5 gr. three or four times a day; s. n. 10 grs. every two hours, washed down with Vichy water; beta naphtoline, bismuth 5 gr. three or four times a day were tried separately. Nitrate of silver and opium were tried, but disagreed so markedly that they were abandoned. After the severe hemorrhage on February 9th pills containing ½ gr. nitrate silver, ¼ gr. ergotine and 1 gr. powdered opium were given every four hours, but there was so much nausea and retention of the urine following that they were discontinued.

In the preparation of food for rectal alimentation owing to a failure to secure some reliable pancreatic preparation from local druggist, Scale pepsin was combined with bicarb soda and used. The amount of gas generated in the bowel, which appeared to pass upward into the stomach, and the frequent discharges from the bowel, although ten to twenty drops of tr. opium were added to each portion, made it necessary to abandon it.

Tubes of extractum pancreatis, prepared by Fairchild were now used and found to digest tough beef with great promptness. The food prepared with these tubes was found to agree very well with the bowel and to be taken up and appropriated. A few times the tubes gave out and pancreatic tablets prepared by P. D. & Co. were substituted. They did not digest the food so thoroughly nor so quickly as the tubes. Moreover, gas

would accumulate in the bowel, and the patient felt much discomfort, which passed away after resuming the use of the tubes.

After February 9th, at which date rectal alimentation was abandoned, the tubes were used to predigest the food for the stomach. The closest attention was given to the preparation, but the food had a disagreeable taste that was very objectionable to the patient. The pancreatic tablets were again tried, and it was found that they did not impair the taste of the food in the least; they have therefore been continued up to the present.

In the early treatment of this case, covering a period of two months, the regulation treatment for gastric ulcer was adhered to, and for the space of one month previous to the most copious hemorrhages of the whole series, nothing was given by stomach. After this time, beginning right on the decline of the hemorrhage, liquid food was given by the stomach, and in a few weeks the patient advised to assume the erect posture for a short time every day.

Food has been taken per mouth up to the present time, April 21, notwithstanding the slight unpleasantness on March 15th.

General faradisation was employed for a period of about three weeks, beginning about February 20th, for the purpose of strengthening the muscles. The amount of food taken each twenty-four hours is about two pounds, one pound of beef and one pound of gruel prepared with cracked wheat and milk. For the past two weeks peptonizing has been gradually left off and a more extensive dietary allowed. On March 25th he weighed 121 pounds, April 15th, 131 pounds, making a gain of ten pounds in three weeks. Is taking daily exercise both walking and riding. April 25th, weighed 136 pounds, making a gain of about three pounds a week.

In gastric ulcers it is claimed there is always distress and often vomiting after the ingestion of food. A noticeable feature of this case is absence of distress and vomiting after taking food; in fact, food has had a quieting effect.

Malignant disease of the stomach sometimes begins without other warning than a profuse hemorrhage from that viscus, but I should expect in such a case, one or more of the usual accompaniments of carcinoma tumor in the stomach, progressive emaciation, discoloration of skin or eyes, swelling of limbs or some involvement of lymphatics, none of which have occurred.

Inability to lie on the left side, or even comfortably on the back, from an early period of his sickness to very recently, and the fact that there are some sensations of discomfort when he turns on the left side, at present point to adhesion of the stomach to the pancreas, liver, diaphragm, or lymph glands.

THE EFFECT AND RESULT OF SERO-THERAPY IN TUBERCULOSIS.

PAUL PAQUIN, M. D.,

ST. LOUIS, MO.

That sero-therapy in tuberculosis of any form is entirely within scientific bounds and based on scientific and practical grounds, is clearly demonstrated by the results obtained abroad and in this country, both by experiments and clinical tests. As I have before expressed, the history of the serum treatment of tuberculosis may be said to date back as far as 1890. Since that year, Bernheim, Bertin, Picq, Coupard, St. Hiliare and Bahes experimented with goat blood and dog blood, and a little with the serum of these animals in the treatment of pulmonary tuberculosis. Maragliano experimented with the blood of the ass, in the treatment of consumption. Richet and Hericourt also experimented with some form of anti-tubercle serum, but with scant success. It was reserved for this country to *immunize* the *horse* against tuberculosis, and produce a successful anti-tubercle serum. I began my experiments on this line long ago, and applied sero-therapy in man in 1894, publishing my first results early in 1895. The immunization consists in rendering the animal resistant to the reaction produced by the bacilli and their toxine in his system. Detailed accounts of the process have been published already. Before this immunization in 1894 and 1895, and the distribution of serum among the doctors throughout this country, there had never been any general attempt to apply sero-therapy in this disease. Unfortunately for the work of our laboratory and our efforts in establishing the value of anti-tubercle serum in the eyes of a few of our continent, the innovation had the disadvantage of being of

American birth. It is the sequel to some years of laboratory and field investigations in bacteriology, duriny my term as bacteriologist and pathologist of the Medical Department of the State University of Missouri. Our results provoked some encouraging comment and considerable criticism, and even denunciations, chiefly from those who knew nothing of the matter, or who had given serum cursory trials, usually in hopeless cases. Many critics seem to have considered it impossible for a general practitioner to accomplish anything valuable in experimental medicine, or to advance abreast of the Europeans in the treatment of pulmonary tuberculosis, by a method depending on careful experimental and clinical labors in the laboratory and in the hospital. Now, we have to our credit, *absolute recoveries*, and a large number of improvements, and no less than seventy-five physicians have contributed encouraging reports, ranging from the arrest of the active tubercular process in apparently hopeless cases to apparently radical cures of early cases.

The therapeutic influence of serum seems to be exercised on those cells of the body whose duty it is to act as scavengers. The serum, in a physiologic way, antagonizes the development of the germs and neutralizes their toxic products in the system. Thus new means of protection are created, or "the natural means of defense," as Bouchard puts it, "are exalted," and the invading microbes are arrested in their devastation. In other words, just as nature does, in an organism invaded by infection, produce in that organism a defensive power to fight the progress of the invading germ, by which power spontaneous recoveries sometimes occur, so does an animal under process of immunization against infectious disease, produce in the blood the necessary defensive elements. By laboratory processes these are filtered out, preserved and then used in man, thus saving his system the dangerous and usually fatal necessity of producing them for his own salvation.

It is evident therefore, that the anti-toxine, or the therapeutic serum of any kind, produced by nature in man or animal,

by the action of a *special germ*, or *its products*, can be expected to neutralize and overcome only this germ and this product. Consequently, in any specific disease with complications of a microbic order, *the complicating* germs are not directly affected by the specific anti-toxine for the primary and specific malady. The complications subside only because of the strength gained in a general way by the organism when the specific germs in question are arrested in their progress. On the other hand, in cases in which the lesions have lowered the vitality of the nervous system, and of the circulation, to a point where the physiologic functions are very seriously impaired, anti-toxines, including anti-tubercle serum, cannot accomplish as good results as in infections without great encroachment. It is therefore, in the earliest stage of any infectious malady that serum must be used to obtain the best results, although it should be used in any stage, it being the only plank of salvation even in most advanced disorganizations. An early diagnosis is consequently an obvious necessity in consumption. which is so often complicated, and must result in irreparable lesions in the great majority of cases.

If we study the results of sero-therapy in diphtheria, in which malady it has given the most striking recoveries, you will notice that it is only in the earlier stage that the most radical and rapid cures have been produced, and that in complicated cases, good results have been comparatively meagre. The percentage of recovery in the early stage of diphtheria is no greater than that of the early stage of tuberculosis, only, necessarily, more rapid. "The Ann Urban hospital, one of the largest of the hospitals belonging to the City of Berlin, treated 411 diphtheria patients in the year 1894–95, twenty of whom were still in the hospital at the end of that year. Two hundred and fifty-five were discharged cured. Of the 245 who were treated with serum, 28 per cent. died, while of the 146 who were treated otherwise, 41.9 succumbed. Of the serum cases, 53.2 per cent. were serious, 23.7 severe, and the rest slight. No injurious sequelæ of the serum were observed, and its salutary

effect was *proportionate* to the *earliness* of its application and the strength of the first doses. The general deduction is that the serum is *not an infallible*, but a *highly valuable*, remedy in such diseases." So is anti-tubercle serum. As a matter of fact, in the reports of treatment of pulmonary tuberculosis by the use of serum, only fourteen cases, so far as I know, were in the first stage (none in the incipient stage), and every one of those has recovered; all the others were in an advanced condition of the disease, and the lesions were such as to preclude the proper execution of the physiologic functions necessary for the proper action of the serum, except to a limited degree. And still, with all these drawbacks, our serum has to its credit, diseases arrested, if not cases of true recoveries, in which there was mixed infection and even cavities, as is shown by the reports.

All that we ask of the physicians in the use of the serum is, that a most careful diagnosis be made, establishing the nature and stage of the disease beyond doubt; thus putting each case on its merits, and treating each with a good knowledge of the existing conditions. It must be understood that serum is not a magic cure; that it will not perform miracles. It is a rational remedy for consumption, and benefits can be expected chiefly in pure cases of tuberculosis before any breaking down has taken place. The results are best at the hands of good, careful doctors, who are persistent, and watch their cases steadily and conscientiously. The following record of cases is self-explanatory, and a good indication of the kind of cases that can be treated with serum successfully:

ACUTE TUBERCULOSIS.

Miss V. Z. (East St. Louis, Ill.): physician in charge, Dr. J. L. Wiggins, East St. Louis, Ill.; consultants, Drs. J. R. Lemen, of St. Louis, and myself.

Miss V. Z. had been ill several months, and the last weeks previous to consultation she had been prostrated in bed with a complete history of acute pulmonary tuberculous pneumonia. The range of abnormal temperature was between 103 and 104.

continually, for many weeks prior to treatment. Microscopical analysis demonstrated bacilli of tuberculosis. Each physician consulted diagnosed acute tuberculosis. Every ordinary method of treatment was pursued, and the fever remained at 104 and even reached 105, with the various usual symptoms of delirium, etc. On auscultation and percussion, it was found that the lungs were both largely involved and infiltration was nearly complete in one. Dyspnea was excessively pronounced, weakness extreme; prognosis fatal. Everything having failed, it was decided, after consultation between Drs. Wiggins, of East St. Louis, Ill.(?), and Lemen, of St. Louis, to try the serum, which I produce. The treatment began about the ninth day of June, 1895. The dose ranged between 20 to 40 ms. daily and continued some six weeks, more or less, regularly. The result was that the temperature decreased gradually and steadily after seven days' treatment to normal temperature, which was reached on the twenty-second of June, or thirteen days after the first injection. Injections were continued until the end of July. The patient rapidly and gradually picked up, gained flesh and strength, and is again at work. She is now healthier than ever before. She weighs 132 pounds, whereas she was emaciated to at least eighty pounds before treatment. The germs of tuberculosis have disappeared entirely, and every symptom of lung trouble is absent.

R. C. G. (St. Louis, Mo., aged 60 years): Dr. Lloyd Simpson, St. Louis, was physician in charge; three consultants were called; diagnosis of all was acute tuberculosis and tuberculous pneumonia. Almost complete infiltration of the left lung, and extensive infiltration of the right. The patient, at the beginning of treatment, weighed between 150 and 160. Serum was continued three months, more or less, regularly every day, after which it was administered irregularly for about two months. This patient suffered, before the beginning of treatment, with imperfect kidney secretion, and had to be injected with care accordingly. The microscopical analysis of the sputum was made by Dr. Ravold, Bacteriologist of the St. Louis

College; Dr. Geo. W. Cale, of the Woman's Medical College, before and at the beginning and during the course of treatment, and in every instance, until after some weeks of treatment, the bacilli of tuberculosis were found in quantities more or less profuse. The patients received injections of serum almost daily in doses varying from 10 to 40 ms., for about three months, and irregularly thereafter for a month or more. At the end of three months no bacilli were to be found in the sputum. The patient who, at the beginning of the treatment, was in bed, picked up in flesh and now weighs 224 pounds and feels strong.

CHRONIC TUBERCULOSIS.

Mrs. H. R. (St. Louis, Mo.) consulted me in February, 1895. She had been ill two years, had had slight hemorrhages, was coughing very severely, expectorated muco-purulent material, occasionally tinged with blood. The sputum was profuse and full of bacilli of tuberculosis. At the beginning of treatment she evidenced infiltration in the apex of the right lung between the third and fifth rib. There was softening and mucous rales about the middle of this area, and very pronounced interrupted breathing in both lungs. Weighed ninety pounds. On the regular dose of 30 ms. a day for four months, and then irregularly every third or fourth day, with a loss of three weeks one time, covering a period of six months, all told. Mrs. R. improved in flesh to the weight of 132 pounds, and became strong accordingly, developed a splendid appetite, and for the last three months her sputum, which is exceedingly scarce now and comes only when she is affected by cold, exhibits no bacilli of tuberculosis. She suffered a miscarriage and six weeks illness recently, but her lungs remain apparently sound. The physical lung symptoms, which existed at the beginning, have disappeared. The patient has recovered.

Mr. E. D. (St. Louis, Mo.), age 36; occupation, shipping clerk; history of glandular tuberculosis, dating back eleven years. Had pneumonia four years previous to his examination at my office, May 16, 1895. Had been declining six months,

had had night sweats and fever. pain in left lung, back and front; pulse 108° at the time of examination; abnormal temperature ranged from 99⅘ to 101°; coughed chiefly in the morning; expectorated a slight yellowish matter; slept fairly on the right, but could not sleep on the left side; was too weak to attend to his duties constantly. There was a marked dullness in the left lower lobe and crepitus of the left apex over a lateral area of 4″, extending 3″ downward. There was interrupted breathing on both sides. All these symptoms disappeared almost entirely in four months of treatment, consisting of 15 to 30 ms. of serum a day. Examination of the sputum made since revealed no bacilli. Mr. D. is at work from twelve to fifteen hours per day, Sunday included, and feels strong and is in good health. Weighs now 148 pounds, a gain of at least twenty-four pounds. He has recovered.

Mr. S. (St. Louis, Mo.) came to me to be examined in February, 1895. He weighed about 145 pounds at the time; had had very profuse hemorrhages at Hot Springs; had lost about sixty pounds from his regular weight, which was above normal for his size; was coughing a great deal night and day, expectorated a thick yellowish matter loaded with bacilli of tuberculosis and other microbes, and was rapidly declining and weakening. He was unable to perform any of his duties as a grocery man. His physical condition evidenced tuberculous affection of both lungs, particularly in the right. The lower half of the lung exhibited moist rales. The left was slightly involved in the same manner. These symptoms, after seven months of more or less regular daily treatment, which consisted of 20 ms. in the beginning and was increased to 30 and 40, and once in a while to 60 ms., almost entirely disappeared with the exception of a slight interrupted breathing. Flesh was regained to the extent of 170 pounds, and strength seems now to be as good as ever. Mr. S. is now, and has been for the last six months, attending to his usual duties, working hard every day and complains of nothing. He expresses the opinion that he is free from disease. He has recovered as much as any one with such

lesions can expect to. He is as much cured as nature can effect a cure of such a case.

Mr. F. B. (St. Louis, Mo.); occupation, railroad clerk: working at night, had had bronchitis at the age of fourteen; had suffered from night emissions from early puberty. Previous health, feeble; cough, scarce; pain in the lower lobe of the left lung; temperature 99 to 100°. Physical examination evidenced dullness of the lower lobe, beginning at a line drawn below the nipple and extending down towards the base. Microscopical examination revealed the bacilli of tuberculosis. Mr. B. was treated from May 27th 1895, to the middle of September, practically four months. All physical symptoms and evidences of tuberculosis have disappeared. He is now at work as before and in good health. No bacilli have been found in the examination made since.

Mr. G. N. F. (St. Louis, Mo.), examined April 29th, 1895, age 45; occupation, bookbinder. Has had a dry hacking cough two years; had had pneumonia at the age of eighteen; congestion of lungs two years previous to his examination. February 7, 1895, he had hemorrhages which dragged him to bed, and at the beginning of the treatment he weighed 130 pounds; expectoration thick and yellowish; bacilli of tuberculosis numerous. Abnormal temperature 99⅗ to 101°, infiltration of the left apex, below second rib, about 3″ downwards and 4″ across, evidenced both anteriorly and posteriorly. Mr. F. was treated with tubercle antitoxine from the beginning of May until the beginning of October, almost every day, at the dose of 30 to 40 ms. Since then several examinations have been made and no germ of consumption are to be found. On the other hand, physical symptoms have entirely disappeared. The patient weighs 146 pounds, has resumed work, and has entirely recovered.

Miss S. (Nashville, Tenn.), was admitted to the sanitarium in May, 1895, and remained under treatment some three months. She came with a written diagnosis of pulmonary tuberculosis from her family physician, which was substantiated by microscopic and physical examination. The bacilli of tuberculosis

were found in large numbers, and the patient was rapidly losing ground both in weight and strength, coughing considerably, particularly at night, and expectorated occasionally a yellowish matter, and sometimes a greenish matter. Night sweats had existed, and fever ranged from 99° to 102° F. She was treated with serum at doses ranging from 20 to 35 ms. After three months she had gained ten pounds. She then migrated to Las Vegas, N. M., where she continued the treatment under Dr. Shaw, of the Santa Fe R. R. hospital there, and her improvement continued. She at first lost flesh, but again increased, and every vestige of symptoms seems to have disappeared, if I may judge from the reports sent me. The bacilli and all physical signs of lung disease disappeared some months ago. She has recovered.

Miss G. A. (St. Louis, Mo.), age 19 years. Occupation, music and vocal student; had had influenza in Memphis six years before; dry, hacking cough for a year; weighed 123 pounds; hemorrhages four years previous to examination, September 26, 1895; larnynx infiltrated; abnormal temperature, from 99½° to 101° F.; coughing considerable, and expectorated a yellowish matter. Bacilli of tuberculosis quite numerous. Heart disease evidenced by regurgitation. Treatment began the last day of September, 1895. Injected very small doses on account of her heart condition, that is, 10 to 20 ms. daily. At this time Miss A. weighed 132 pounds. The bacilli of tuberculosis are seldom present in her weekly examination, and when they appear they are very scarce, there being one or two in the field once in a while. Strength has been regained, and appetite is splendid. The patient is considered as having almost recovered, as there exist no longer the physical signs of infiltration, and the first signs of breaking down which existed at the beginning of treatment.

Mrs. N. (Chicago, Ill.), age 33, married, has a family of six or seven children. Began treatment at the sanitarium May 19, 1895, and continued at the institution under the treatment for a period of two months, after which time she went away, and later

reported as being free from disease, her expectoration having ceased and cough being nil. This patient has been ill two years, had had pheumonia following an operation for hemorrhoids. Having had no opportunity of making an examination since this report, I am unable to verify it with personal data.

Mr. V. (employed at our institution), age 31, a patient under the charge of Dr. L., had laryngeal and pulmonary tuberculosis. His condition had been declared, in writing, hopeless by a number of specialists in St. Louis, including all the leading ones. He has been treated under the special care of Dr. L. and myself for a period of about ten months, having received from 30 to 120 ms. a day. At the beginning of his treatment there existed infiltration and other lesions of the larnyx. He had lost his voice, weight and strength. He was in a hospital, unable to perform any work. He is now assisting in the care of some twenty-two horses in company with another man, working many hours every day in water and dust, and his appetite has improved and his strength keeps good. He is sensitive and susceptible to colds, but under the treatment of serum he has gained a condition which permits him to do all the labor that can be asked of almost any man.

Mrs. A. C., age 26, married, has had three children and two miscarriages, one recently. At the age of 14 she received a kick in the chest, at which point pain appeared frequently, and whenever the patient contracted cold. At her examination infiltration was discovered over an area of about three inches in diameter on the right side below the breast, also a dullness in the left lung between the second and third ribs, extending about two inches downwards and two inches laterally. She had had the various symptoms of tuberculosis for some years, and dated the accidental incipiency of it fourteen years previous. She had had several hemorrhages. The active development of the disease dated three years previous to my examination, which occurred June 7, 1895. At that time she weighed 115 pounds; to-day she weighs 135 pounds. She had dyspnea, expectorated a great deal, coughed almost unceasingly, had a very poor appe-

tite. Now all these symptoms have disappeared, and her strength has increased so that she is able to perform her daily duties. The physical signs above mentioned have disappeared as completely as nature can heal such a case.

John H., age 48. Pulmonary tuberculosis two years. Prostrated in bed at City Hospital. Cavity, contracted lung, bacilli numerous. Mother died of phthisis. Cough aggravating. Injections 30 ms. daily; begun December 1, 1894, continued for three months regularly. Weight increased 6½ pounds first two months. Has since been under treatment irregularly. Has been at work over a year, grooming from twelve to twenty horses, ploughing and farming generally part of the time. Bacilli absent at present. Recovery.

Miss Y., age 18. Pulmonary tuberculosis, first stage. Lost ten pounds. Infiltration in and dullness over area of about three inches in diameter between second and sixth ribs, in right lung. Cough persistent at night, and expectoration profuse in the morning; bacilli present.

Miss Y. was treated over four months almost daily, at a dose of 30 ms., hypodermically. To-day she has more than gained her normal weight, is absolutely free from cough, and the last symptom of pulmonary tuberculosis has disappeared. Bacilli absent.

SURGICAL TUBERCULOSIS.

B. McG., age 18 years 2 months. Had been suffering with joint and bone tuberculosis for 7 years, and had ten operations performed on different parts of his body to open abscesses, and to open necrosed bone. The seat of his trouble was the right hip-joint, but was giving him trouble on every limb. The left tibia was much involved, having at one time eight openings discharging a tuberculosis pus. The hip had three openings that would heal and open alternately, and one that was open continually for seven years. He had an abscess on each arm, one on the sternum, one on the index finger of the right hand, a tubercular nodule in the skin of the scrotum, an abscess near the apex

of the left scapula and two on the lower jaw. After the continued efforts of Dr. J., of Waverly, Ky., who had for consultants two physicians of the same State, to cure the patient had failed, it was decided to let nature take its course. He was without medical aid for two years. In the fall of 1894 he was put in care of Dr. B., St. Louis, who performed an operation to remove necrosed bone from the thigh and tibia, thinking these openings would heal. This having failed, he decided to try the serum treatment, and was taken in charge by Dr. G. W. C., St. Louis, Mo. He began the treatment in March, 1895, at which time he had four abscesses discharging a characteristic tubercular pus, and two places that afterwards opened. He had daily injections of serum in doses of 20 to 30 ms., and at the close of six months' treatment five of these abscesses had closed, he had gained 10 pounds, and was without temperature. He is working steadily and is still gaining weight, and hopes for a cure. The last and only opening is on the thigh, and dead bones have been located, which is the cause of its remaining open. Up to the present date he has gained 16 pounds, has a good appetite, and is enjoying good general health.

"THE PREVAILING DISEASES OF EAST TEXAS AND THE CHANGES THEREOF AS OBSERVED DURING THE PAST THIRTY YEARS."

H. L. TATE, M. D.,

LINDALE.

It is not my purpose to even attempt making this paper a learned one, were I ever so capable, but to bring to your attention, as a busy practitioner has seen them, some of the most common types of disease that may be noted in East Texas, and the changes observed therein during thirty years of professional work in the same locality. It will not be amiss, at the outset, to say that the region of which I propose speaking is typical of that portion of our State, that in the main it is heavily timbered; that it is traversed by the Sabine river, a sluggish stream of only a few paces breadth in the dry season, but during overflows, sometimes lasting for weeks, covering miles of low-lying swamp lands, and that into this stream numerous small creeks empty which, in the main, are but a few miles in length, but as they approach the river are low and flat, bordered by brakes and bottoms that are difficult of drainage, and which, after freshets, are covered with water which slowly evaporates under the warmth of our summer sun. Between these creeks we have elevated lands, more or less broken, rising to an altitude of never more than one or two hundred feet above the level of the river swamp lands. The drainage of these plateaus or divides is usually good, but there are many small areas in which water may be found at only a few feet below the surface during the rainy season, and in which months of dry weather are required to finally dissipate it. The soil here is usually a sandy loam, underlaid, at varying depths of one to five feet, by clay generally mixed with sand. This clay varies greatly as to quality.

In some instances it is almost as porous as the overlying soil, in others it is almost entirely free of sand, and is so impervious to water that cisterns dug therein will hold as though cemented. Thirty years ago, in the locality of which I am especially speaking, the northern part of Smith county, the few settlements which existed were on the richer lands bordering the small streams. It is needless to say that they were widely separated, the entire population of the county, at that time, being only 13,329, and this part thereof was probably the least populated portion. The farms were small and all newly improved. The wild lands between were covered by a dense growth of grass often attaining a height of one to two feet.

The climate was then as now, three months of winter, temperature rarely falling below 25°, and for only a day or so at a time, and nine months of spring, summer and autumn, with variable rainy and dry seasons, the rainy season being the latter part of winter and spring, with long dry and hot summers and dry autumns. This is the rule; there were, of course, exceptions.

Of course the prevailing diseases are malarial; this will be evident from the above imperfect description of the country's climate and topography; and without entering into any discussion of what malaria is, or how generated, or how it enters the circulation and affects its victims, I propose briefly to state the forms of disease it has most commonly given rise to here, and some changes therein during this long period of time. I do not know how it is with other members of the profession, but for myself, probably because my life work has been in a country such as I have described, the study of malaria and its influence in the production of disease has been the most interesting and fascinating part of my life. Do not understand, however, that it has led to any new discoveries, or that I have been engaged as an independent investigator in an effort to make clear its almost mysterious workings—for this is not true—but what I do mean is that the study of its many phenomena, as manifested in my field of work, has been a constant source of surprise and

wonder at the all powerful force for ill of this agent; and when I come to consider, in connection with this, the possible means now at our command, or which by research may be brought within our reach in the future, I can not be so sanguine of great results along the lines of preventive medicine as to cause me to feel that it will not continue to be for years to come the same powerful force for ill which it is now.

Thirty years ago, when I commenced the practice where I now reside, this disease force was so all-pervading that it was the exception for any individual to escape its ravages; and for several years the form seen was intermittent and remittent fevers, and it was a rare thing that I could not dismiss my patients convalescing after two or three visits. Of these two forms the most commonly observed was the intermittent, and this usually was of the mildest type, that popularly known as "dumb chills." Next in frequency was "remittent or bilious fever," then "congestive" or "pernicious." For several years during this early period of my practice, when everybody was more or less affected in the autumnal season, the resulting fevers were of these mild forms; and it has been no unusual thing with me to observe that its wide-spread and almost universal operation has not necessarily meant malignancy.

In the early winter of 1867 I saw my first case of "hemorrhagic" form, a form so distinct in its symptoms as to merit special mention. For the next ten or fifteen years, or until about 1880, this form was quite common. Up to the beginning of this period it had been so rare as to have escaped notice, if present at all, for I remember well, after having reported this case through the *Philadelphia Medical and Surgical Reporter*, and inviting discussion, and after communicating by letter and otherwise with many members of the profession, there were only a few responses as to any knowledge of it, and these few from the lower Mississippi valley and the valley of the Yazoo and Arkansas rivers. This, however, could not be said fifteen years later, for it soon came to be known that after a season of malarial fevers, and when, from the experiences of the past,

they should be giving way as winter approached, that then "black jaundice," hemorrhagic, or hematuric malarial fever, would make its appearance, and so malignant was it, and held in such horror by both the profession and the people, that it was freely discussed and many theories advanced as to its cause, and much was said as to its proper treatment. Since then it has again become rare, and until 1895, the season of all others of recent years in which malarial influences were most virulent, it had not been my fortune to see but few cases of this most pernicions form of malarial fever for many years.

I have found myself more than once speculating as to the cause of these changes, but will not burden this paper by recording those speculations; but sure it is, dividing my thirty years' practice roughly into periods, that for the first several years the forms of malarial fevers were of the mildest type, but all-pervading, attacking almost every one; then comes a period in which it appeared in its most malignant forms of the congestive type, the hemorrhagic and the hematuric, but not so all-pervading, not attacking in its milder forms even, nor so large a per cent. of the population. Then follows another period in which they become less common, until malarial fevers, in any form, had come to be unknown in many families, and even entire neighborhoods, until the season of 1895, when it was again all-pervading and virulent to a degree rarely seen by me.

During this latter period, when there was a gradual but sure lessening of the prevalence of malarial fevers, I commenced observing, for the first time, another form of fever that would not yield to the ordinary quinine treatment. I do not remember the exact date, but it was in the fall of 1882 I saw, in consultation with a fellow of this Association, my late and sorely lamented friend, Dr. E. R. W. McCreary, my first case of this fever, and we called it typhoid.

This patient had been a resident of Navarro county, this State, having lived near the town of Corsicana, working largely in that city, and came to Smith county on a visit, he and his family. On the route, which was by the old Texas method,

wagon and team, he was stricken with fever, and on his arrival promptly called in Dr. McCreary; later I was called in consultation, and still later, because of my friend's illness, had to take charge of the case. Prior to this I had boldly declared that we had no fevers here that would not yield promptly to quinine—and was incredulous and disposed to be skeptical when I heard of physicians having cases of typhoid fever in East Texas, but from this time gradually increasing in numbers as the years passed, the prevailing fevers became typhoid, and the old time, easily controlled and speedily dismissed cases, of intermittent and remittent, became less common, and as before remarked, until 1895, had become almost forgotten in many families and neighborhoods. And by common consent we called this fever typhoid, and still it was not in many particulars the fever I had seen in my student days in the hill country of Georgia and Alabama. Many symptoms were absent here, that we there thought pathognomonic, and some present here which were rarely seen there. Here we had no diarrhœa, and rarely tympanites—there, these were almost universal. Here we had, with some exceptions, a thick, broad flabby tongue, moist and heavily coated—there a pointed tongue, red tip and edges, brown coated, and dry. Here we had hebetude, quiet and langour, a dull look and sluggish mentality—there insomnia the rule, and along certain lines a mental activity that never rested until the patient was either convalescent or in his grave—and many other differences which could be mentioned but would be foreign to the objects of this paper. In passing, will say that these fever patients as seen by me rarely die, but the fever never yields under twenty days, and often lasts sixty, and even longer; and another fact is that on its first appearance, it was invariably the case, that the healthy localities, those less subject to malarial influences, were the ones to suffer, gradually becoming the characteristic fever of the entire country. Some have been disposed to call this fever "typho-malarial," but I do not like the name and have never adopted it. Some are disposed to think that it is a malarial fever pure and simple, and should be

called after the usual nomenclature "remittent," but if this is a malarial fever, quinine has lost its old time potency, and besides, it never appeared in my practice until after the every day and well understood effects of malaria were on the wane, and our country had became comparatively free of all its usual manifestations. This is a fever well worth the careful study of those whose fortune it is to see it, and for one, now that we are apparently in the beginning of another malarial era, I shall observe closely, whether it is modified in its course thereby, or even attacks people who are laboring thereunder. It may be that it is only accidental, and that there is no real meaning in it along the line suggested, but for years I had never been without a fever patient until the beginning of the malarial season of last year—since which time I have not seen a case, and after some considerable inquiry amongst brother physicians, whose work is on the southern border of the Sabine river watershed, I am constrained to believe that it is at least less frequent than for the past ten years.

It may be worthy of remark that typhoid fever, as I have briefly described, did not appear in my practice until some time after the building of our lines of railroad, and although I have not been able in the vast majority of cases to trace infection, yet I think it is true, that the railroad towns were the centres from which it gradually extended, until it has reached the most isolated community. This is a subject upon which I should like discussion and such statistics as may be at the command of the profession.

Before leaving the subject of malarial diseases, which I have had occasion to see and treat, I should have mentioned that I have passed through two epidemics of dysentery. Of course I have met this disorder in its sporadic form more or less every summer and autumn, but as the zepher to the cyclone, so would the comparison be, as between the sporadic and the epidemic forms. In the two epidemics above mentioned, one in the fall of 1869, the other confined to a smaller territory in 1879, we had been the victims of long heated terms at the close of sum-

mer and the early days of autumn, following an excess of rain, and as I remember malarial manifestations were wide spread and violent in the first, and virulent but circumscribed in the second. Sixty per cent. was the mortality in my practice during the first, and only slightly less in the second and last—and may be the last forever through which I may pass. I have had nothing to say in this paper in regard to the therapy of disease, as you have noticed, but I can not refrain from saying in this connection that those of you who may think that the remedies as advised by our leading pathologists are satisfactory in the treatment of dysentery, just wait until you are called on to try same in a Sabine river epidemic. Nothing ever witnessed by me will equal its mortality; no plan of treatment ever formulated, or that in my judgment ever will be formulated, will prove adequate to the cure of this most malignant disease. Like its kinsman and rival in dread mortality "hemorrhagic malarial fever" they are both, at their worst, the most malignant and most fatal of all forms of diseases which it has been my privilege of seeing, and when confronted therewith we can only stand impotent and appalled at the utter futility of our boasted science giving life and health to its victims. From observation and as close study of such forms of malarial poisoning as I am capable of giving, I should feel as hopeful of raising the dead as of relieving the malignant or congestive forms of these two maladies. "The fount of all the blood corruptly affected" and unless we could create, it is utterly futile to think of relief.

Of "pneumonia," we have had our share, but have witnessed nothing in connection therewith that is not I suppose common throughout the State. However, in the winter and early spring of 1878, I notice by reference to my note-book, that I had an unusual number of cases, nearly all of whom were jaundiced, the yellowness of the skin in many instances being intense, and where much lung substance was involved, being a bronzed yellow as observed in the malignant cases of "black jaundice." The mortality where such symptoms appear has been great with me, and from observation I have come to regard them in a ma-

larial region as very grave. For some years past my cases have been in the main, benign, and but few in number.

Other acute troubles of the respiratory organs are rare: some cases of bronchitis—a few of the capillary variety, now and then acute tuberculosis, and very rarely pleurisies with effusion. While speaking of diseases which affect the lungs I can not refrain from mentioning some conclusions arrived at in connection with phthisis pulmonalis. For a number of years after the first settlement of this country, and remember I am speaking of the northern portion of Smith and the southern portion of Wood counties, I never heard of a case of consumption: and when my father settled here in 1851, it was the commonly received idea that the country was exempt from this terrible scourge. As late as twenty years ago the old settlers still maintained this belief, and it was largely true; but with the advent of railroads and increased immigration it became common, and now I suppose, we add as much per capita fatality from the disease as any other portion of the State.

As I intimated in speaking of typhoid fever, so I can not help thinking in regard to phthisis that increased travel facilities and greater social intercourse has been largely responsible for this change, and my observation along these lines, though not of exact scientific nature, can but add its mite to the value of isolation or non intercourse in the crusade we are called on to wage against all infectious diseases.

Here was a country isolated in its relation to the outside world—sparsely populated it is true—whose citizenship were completely exempt from typhoid fever and phthisis pulmonalis for years; for in my efforts to obtain exact information I have been as painstaking as was possible when seeking information from all sources, and can vouch for the substantial accuracy of this statement. When railroads are built, new towns laid out, a multitude of new people seek homes amongst them, as occurred early in the seventies, this proposition is no longer true, and we have our prevailing fevers changed from the malarial

to the typhoid, and no community that does not have its one or more victims to consumption.

There is only one other thing I wish to say in this paper, and that is, that during my entire professional life I have never had but two cases of organic disease of the kidney. So entirely free has my practice been of such cases that I have come to regard them as exceptionably rare in the rural portions of East Texas, or that our authorities vastly overestimate their frequency.

There are many other things which might be appropriately said in connection with the subject matter of this paper, which I hope may be said, now and here, upon its discussion; and the discussion need not be confined to members from East Texas, and the changes in disease types in that section of our State, for I feel assured what I have observed and have endeavored in an imperfect manner to relate will be found true of nearly all sections of our country under the varying conditions which have arisen during the past three decades.

DISCUSSION.

DR. H. A. WEST, of Galveston: I do not intend to flatter the author of the paper, or belittle any of those which have been read previously at this meeting. I simply wish to say that to me, that has been the most interesting and most instructive one that has been read. I regret exceedingly that every member of the Association has not been present to hear it, and that the time and occasion are not opportune for a full discussion. (At this point Dr. Tate was called from the room to meet with the nominating committee.) I am sorry that Dr. Tate has to go, because there are several questions I wish to ask. In the first place, I would like the explanation of the author as to the cause of the increased prevalence of malarial fever at different times, and his observations as to the influence of the season's changes, the fluctuation of temperature, the amount of rainfall, and cultivation of the soil. All those questions are matters of very great importance. Then another question upon which I would like to ascertain the results of his observation, viz., the possible influence the drinking water may have had as a cause of malaria. Probably all of you are fa-

miliar with the fact that the theory as to the cause of malarial fever by the entrance of micro-organisms through the drinking water is one that has been advocated of late years more or less extensively; the evidence upon this subject is not complete. We all know that the malarial poison enters in other ways; the very name of the disease indicates bad air, but more evidence is needful to prove conclusively that infection occurs also through the drinking water. Then another interesting question brought out in the paper was the change in the types of diseases. Instead of malarial fevers prevailing as extensively as formerly, he states that a new fever has developed, which he called typhoid, and in my opinion, correctly so. I wanted to inquire of him as to the occurrence of the eruption in such fevers. He mentions a number of points wherein this fever differs from typhoid fever as described in the books, and the form that he had previously seen. This question to my mind is one of the most important and interesting that has ever attracted the attention of the profession. It is generally admitted now that typhoid fever prevails more or less over the State (though recently this fact was denied by many), and of course everyone knows of the presence of malarial forms: there are, however, two questions which have not yet been satisfactorily answered, viz: 1st. Is there another form of continued fever, neither malarial nor typhoid which is extensively prevalent? 2d. Is the type of typhoid different in this and other Southern States from the classical forms as described in the text-books? In other words, has the disease been modified in its symptomatology and pathology by climatic and other influences?

This subject has been presented by me so often that it is hardly worth while for me to express my ideas upon it again. I do not wish to be dogmatic. What I want is light and truth. Let me repeat it so far as my observation goes—and the cases I see are not only cases incident to my locality, but they come from all parts of the State—the form of typhoid fever in Texas is characterized by all the classical symptoms as usually described, and the same lesions are present that characterize the disease all over the world, and there is no third form of continued fever. All cases are not severe: there are mild and abortive cases as described by George B. Wood thirty or forty years ago, and by every writer of note since his time. Now, there is another interesting point brought out by the paper, a statement which has been repeatedly mentioned before, that certain conditions of the soil, depending upon cultivation and drainage, and other circumstances due to the settling up of a country, the malarial fevers give way to typhoid fever. Dr. Tate, in this matter, simply confirms the

experience of other countries as to the change in the character of prevalent diseases. (Speaker's remarks terminated by limit of time.)

DR. B. F. BRITTAIN, of Arlington: This is a subject to which I have paid a good deal of attention myself; Dr. Tate, though, has written of it so much better that I was actually ashamed to follow him. I have been in Texas ever since '66. I left Tennessee—I don't care what for, and you have no business to know—I left there and came to Texas, and have been here since '66, and been right in the same locality as Dr. Tate, until four years ago, I wore out there and had to hunt a new pasture. The description he gives of the fevers there is accurate and correct. Typhoid fever appeared there in '68 or '69. I thought then it was typhoid fever: now I know it was, because I have tried to keep informed upon this subject. My attention was attracted in the early cases by intestinal hemorrhage. Now, gentlemen, if in a long continued fever you have the occurrance of such hemorrhage you can lay it down as a positive fact that it is typhoid fever and nothing else, because there is no other form of fever where it is likely to occur. I wrote a paper three years ago classifying fevers, and I am satisfied I was correct. These long continued fevers are either typhoid or malarial fever. Of course we can have some inflammation of the internal organs that may produce fever, but in these long continued cases it belongs to one or the other of these classes. If yot want to get rid of it quick you want to give quinine, and if it don't get well in a few days you may suspect you have got typhoid fever, and if you don't get rid of it in a week you can swear you have got typhoid, and then *if you let it alone* it will get well.

DR. TATE: I feel very much complimented that my paper has been discussed with so much interest. I have nothing whatever to say in closing. My only intention was some brief and imperfect observations of thirty year's experience.

DR. H. A. WEST: There is one question I wish to ask, and that is whether you found the eruption in your cases of typhoid fever?

DR. TATE: Never have. I don't think I have seen a solitary case in which I discovered it. I have searched carefully for it often and often.

DR. T. A. MILLER, of Corsicana: I would just like to ask, Mr. Chairman, for my own benefit and instruction, in regard to the treatment of a certain trouble connected with malarial fevers, which has given me more trouble than any disease in my practice, and that is in the treatment of pneumonia contracted by a person who had been suffering for some time from malarial poison. I wanted to ask Dr. Tate that question before he made his last statement.

DR. TATE: A certain type, which I undertook to describe in this paper, attended with a jaundiced condition of the skin, and in addition thereto, large quantities of yellowish expectoration. I couldn't find any successful treatment for it at all. However, I have always found in this type of pneumonia benefit from the use of quinine, just as I did in the treatment of malaria. I have no specific treatment for these malarial cases, but in addition to quinine, have gotten benefit from digitalis and ammonia carbonate. Tincture digitalis and tincture belladonna in heroic doses, together with quinine and mercurials in discretion, constitute my treatment in pneumonia, after the heart's action has been controlled by Norwood's tincture varatrum veride. But, in the types imperfectly described above, no treatment has proven successful.

DR. J. D. OSBORN, of Cleburne: I want to answer Dr. West on a little matter that has been a study with me for the past twenty years. Living in a region in Alabama where we have plenty of good water, and just below us about eight miles was a cane-brake region, where there was malarial fever in all its forms. It was evidently not due to the drinking water, because in that upper section of country we had the finest artesian water known in the world. In 1874 I moved from that section of the country, unfortunately, to the Yazoo valley, widely known for its malarial troubles. There I saw and experienced all forms of malarial trouble. It was not due to the water, because I had a couple of the finest cisterns that could be built, and every farm in the country had the same kind of cistern. No one drank the water of the creeks or rivers, but used only cistern water caught in the winter and nicely cared for. Moving to Texas in 1876, I found typhoid fever existing throughout Johnson county; and up to the time we found artesian wells could be had so cheaply, and good water so pure and fresh, we had typhoid fever. Since then the cases have been diminishing year by year, until we have very little of that form of fever existing. I reason that the malarial poison is absorbed from the air; that it is generated in the low damp bottoms like the Yazoo and the Brazos, and is not due to the drinking water, but that of typhoid fever is due all the time to contamination of the drinking water.

DR. A. P. BROWN, of Fort Worth: I am much obliged to Dr. Tate for his photograph of my past experience in the malarial regions of Louisiana and East Texas. It was, a long time ago, the custom to give "ten and ten," or "calomel et rhubarb et aloes of each ten grains;" use leeches to relieve the excess of blood to any part of the body. As a sequel there was much salivation; sometimes hemorrage that was difficult to control, and quinine was given constantly "until chill and fever was broken up." My plan was to thoroughly evacuate the stom-

ach and bowels with calomel, blue-mass and Tarrant seltzer aperient or Epsom salts. p. r. n. Then six, four and two hours before the expected chill to give full doses of quinine, doses according to age; and between each of these give fifteen or twenty grains of bromide potassium to quiet or prevent quinine jactitations. At that time often tincture of gelseminum and sweet spirits of nitre was given during the fever. and tonic bitters of colombo, wild cherry, cinchona, poplar and dogwood bark, adding one to ten drops of Fowler's solution, and half to three grains of iron to each dose of the bitters, *pro re nata*. Malarial fevers occur, very seldom in Fort Worth. Over in East Texas I lived on the Cypress, which flows into the Caddo above Jefferson, and that flows into the Red River. We had a very severe form of malarial fever in that country. I found that the doctors' plan was to give quinine in excessive quantities, which was wrong, according to my opinion. and they didn't do anything to relieve the patient when he had this quinine jactitation. In that country they wouldn't send for you for ten or fifteen or twenty days, and sometimes they would have chills and fever for three months before you would know anything about it, and perhaps you would have to go thirty miles winding along the bridle paths to see them. It occurred to me that to cure these it was not necessary to pour quinine into them all the time. I would give it before the time for the chills to come on, and give a dose of bromide of potassium midway between the doses of quinine, and thus prevent that nervous jactitation. I found the most miserable bilious nausea in these cases that I reckon a man ever felt in the world. It seemed perfectly impossible sometimes to allay the irritation of the stomach. To relieve this bilions condition, I never found anything to surpass Epsom salts. It moves the bile out of the stomach when nothing else will do it. and one good dose given in hot water will often settle the nausea. I am satisfied that in those days we gave too much calomel, for we had a great deal of salivation. Since I have been in this town I have seen but three cases of malarial fever that were not brought here from the river, the gulf, or some other low country. You don't have it in this country.

A NOTE ON THE ACTION OF APOLYSIN.

BY DAVID CERNA, M. D., PH. D.,

Demonstrator of Physiology and Lecturer on the History of Medicine in the Medical Department of the University of Texas.

Recent literature concerning antipyretics and analgesics has brought to the notice of the profession several new drugs, among which *apolysin* seems to occupy a prominent place. Through the courtesy of a New York drug firm, that kindly furnished me with a considerable amount of the new medicament, I have been enabled to conduct a series of experiments in the physiologic laboratory of the University of Texas, at Galveston, the results of which I shall endeavor to embody in this brief report.

Apolysin is a substance closely related to phenacetin. Like the latter drug, apolysin contains paraphenetidin. In phenacetin, however, the paraphenetidin of the amide group (NH_2) one atom of hydrogen is replaced by an acetic acid radical: while in apolysin the atom of hydrogen of the paraphenetidin of the amide group is substituted by a citric acid radical. It may be said in this connection, that a combination of phenetidin and citric acid under the name citrophen, or citrate of phenetidin, has been referred to by Benario as possessing medicinal virtues.[1] But according to Seifert,[2] although one molecule of citric acid can be combined with phenetidin to form the so-called citrophen, it can also be combined with two molecules and with one molecule of phenetidin, respectively, to form different substances. Treupel[3] has experimented with citrophen, and found

[1] Deutsche Med. Wochenschrift, Nos. 26 and 32, 1895.
[2] Deutsche Med. Wochenschrift, Nos. 32 and 44, 1895.
[3] Deutsche Med. Wochenschrift, No. 33, 1895.

it to be poisonous like all the salts of phenetidin. On the other hand, it is claimed that apolysin is not related to the citrate of phenetidin, or citrophen, but that it contains two complete citric acid groups, and is practically non-poisonous, being not a simple salt of phenetidin, but a phenetidin permanently combined in an anilid-like form. The innocuousness of apolysin has apparently been demonstrated by the investigations of Nencki and Jaworski.[1] Further, it is asserted by Seifert that carbonate of sodium causes no changes in apolysin, while the addition of that same sodium carbonate to citrophen produces an immediate separation of phenetidin as a free poisonous base. Hildebrandt,[2] who has also studied the chemical relations of both citrophen and apolysin, affirms that these two substances differ chemically from one another in this, that in the latter, apolysin, one molecule of phenetidin is associated with one molecule of citric acid with the production of water; while in the former, citrophen, three molecules of phenetidin are combined with one of citric acid, but without the production of water; that the relation of citrophen to apolysin is like that of the lactate of paraphenetidin to lactophenin.

Apolysin appears in the form of a white or yellowish-white crystalline powder having a faint smell and an acrid taste; is readily soluble in warm water, and in cold water in the proportion of one part to fifty-one, or at most fifty-five. This new drug is also freely soluble in alcohol and cold glycerine. Apolysin melts at 72 C. (161.6 F.) Placed upon platinum shell and heated, apolysin burns up completely without leaving any residue, and further experimentation regarding its chemic behavior, with nitrate of silver, sulphuretted hydrogen, and sulphid of ammonium, shows that it contains no metallic substance. Treated with concentrated hydrochloric acid and chromic acid, it gives a ruby red color. But apolysin combines with metals

[1] Gazeta Lebarska, May, 1895: also, Allg. Med. Cent. Zeitung, July 27, 31, and August 3, 1895.
[2] Centralbl. fur inn. Medicin, Nov. 9. 1895.

to form salts; it also forms combinations with caffein, quinin, sodium, magnesium, lithium and other substances. The formula of apolysin is given as follows:

$$C_6H_4 < \begin{matrix} OC_2H_5 \\ H \\ N < \\ COCH_2 \end{matrix} \quad \begin{matrix} \\ \\ -C < \\ \\ \end{matrix} \begin{matrix} OH \\ \\ -CH_2\,COOH \\ COOH \end{matrix}$$

In an experimental study, previously referred to, Nencki and Jaworski[1] found that apolysin, even in considerably large doses, was non-poisonous to frogs and rabbits. In the former class of animals apolysin injected hypodermatically in the proportion of from 0.0005 to 0.004 gram to 1 gram of the body-weight, produced absolutely no toxic effects. The same results were obtained in the case of rabbits. To one of these rodents, weighing 1345 grams (47 ounces), was administered 3.5 grams (54 grains) of a 10 per cent. watery solution of apolysin, that is, in the proportion of a little over 2½ grams per kilogram of the body-weight, but no bad effects were observed. Hildebrandt,[2] like Treupel, says that citrophen, identical, as has been stated, with the ordinary citrate of phenetidin, is poisonous to rabbits; while the toxic properties of apolysin are practically *nil*, and certainly much less than those of phenacetin. He affirms, indeed, that 8 centigrams (1¼ grains) of apolysin, injected subcutaneously, caused no ill effects on white mice, while 3 centigrams (⅖ of a grain) of phenacetin, administered to the same class of animals, produced the characteristic toxic effects of phenetidin.

I have been able to corroborate some of these statements in regard to the general action of apolysin on dogs, and as illustrations I append the following experiment:

Experiment 1.—Dog weighing about eight pounds. Exposed external jugular vein and injected into it 5 grains (3 decigrams) of apo-

---

[1] Loc. citat.
[2] Loc. citat.

lysin dissolved in water at 10 a. m., 10:15 a. m.; no effect, and gave another dose of 10 grains (6 decigrams). This injection was followed a few moments later by a slight increase in the number of respiratory movements, but this effect soon disappeared and the animal continued well. At 10:45 a. m. a third dose of 15 grains (1 gram) was administered. A short time afterward the canine began to breathe a little faster than usual, and then sought a corner of the room where he remained for about an hour, very quiet: in half an hour later the dog was as lively as ever. At 3 p. m. injected 15 grains (1 gram) more, and with the exception of the respiratory disturbance alluded to, and a tendency of the animal to remain quiet, no other marked effects were noticed in the course of three hours, by which time the dog seemed as well as ever.

In the experiments that follow the animals were first anesthesized, and then, after the external jugular vein was exposed and prepared for the injections, the carotid artery was connected with the kymograph in order to better observe the effects on the circulation and the respiration. Observations were made at the same time regarding the bodily temperature, this being taken at the rectum by a thermometer with centigrade scale. In all these experiments a five per cent. watery solution of the drug was used.

Experiment 2.—Dog, weight twenty pounds. An injection of 5 c. c. caused no alteration in pulse, blood-pressure or respiration in the course of fifteen minutes. A second injection of 10 c. c. of apolysin solution was followed by a scarcely perceptible fall of the arterial pressure accompanied with a slight increase in both the rate of the pulse and the number of respirations, these effects soon passing off, however. Three more doses of 5 c. c. each were given at about twenty minutes intervals, but with the exception of the same slight disturbances like those noticed after the second injection, no marked permanent changes were observed either in the circulation or the respiration. The blood appeared to retain its normal character. During the experiment the animal seemed quiet as if under the influence of some nerve-depressing agent. The temperature was slightly reduced. The dog was finally killed with chloroform.

Experiment 3.—Dog weighing about twenty-eight pounds was used. The first intravenous injection of 10 c. c. caused an immediate fall of the arterial pressure, a temporarily increased but soon followed by a

diminished beat of the heart, and an acceleration of the respiratory movements. The blood pressure and the heart's action shortly returned to the normal condition and remained so for fully an hour. A second injection of 5 c. c. produced no circulatory changes, but the same disturbances in the respiratory function previously observed were again produced. An injection of 10 c. c., given a few moments later, was followed by a rapid fall of the blood pressure and reduction of the pulse-rate, which changes, however, soon disappeared. The respiration was markedly affected, the rate of movement becoming almost twice as high as in normal circumstances. The thermometer, at the rectum showed, about twenty minutes after the last injection, a fall of the bodily temperature amounting to a little over half a degree. No changes observed in the blood itself.

Experiment 4.—A small dog, weight about ten pounds. Gave repeated intravenous injections, at short intervals, up to about 3 grams (45 grains). This finally caused death by a simultaneous arrest of the respiration and the heart, the symptoms of asphyxia being particularly marked. Death was preceded by considerable hematuria and cyanosis, with a distinct discoloration of the blood.

A better idea can be obtained, perhaps, of the actions exercised by apolysin on the circulation and the respiration, from a description of some of these experiments in tabulated form, as follows:

Experiment No. 5. Dog: weight, 15 pounds.

Time. m. s.	Dose. Grams.	Pressure. mm.	Pulse. per min.	Resp. per min.	Remarks.
0:		120	90	32	Normal.
3:15	2 c.c.	120	95	32	Injection begun.
:30		120	95	32	Injection ended.
4:00		120	102	38	
5:00		120	100	40	
7:00		118	95	40	
9:00		120	90	38	
12:00	2 c.c.	120	90	36	Injection begun.
:40		118	90	38	Injection ended.
13:00		104	80	40	
15:00		100	75	42	
20:00		118	90	38	
25:00		120	90	34	
40:00		120	92	32	
45:00					Killed with chloroform.

Experiment No. 6. Dog: weight. 12 pounds.

Time. m. s.	Dose. Grams.	Pressure. mm.	Pulse. per min.	Resp. per min.	Remarks.
0:		160	120	36	Normal.
2:00	1 c.c.	160	120	36	Injection begun.
:30		160	120	36	Injection ended.
3:00		160	120	38	
5:00	3 c.c.	160	120	36	Injection begun.
:30		150	128	40	Injection ended.
6:30		120	108	42	
8:00	2 c.c.	126	116	40	Injection begun.
8:30		110	104	46	Injection ended.
9:00		104	102	48	
10:00		90	98	46	
15:00		108	112	40	
20:00		140	118	42	
40:00		160	120	38	
55:00		160	120	38	Killed with chloroform.

A close examination of the preceding experiments shows that small or even medium-aized doses of apolysin cause no marked effects on the circulation. Large quantities, however, reduce both the pulse and the arterial pressure. The same phenomena are still produced after previous section of the pneumo-gastrics, as well as after peripheral paralysis of the vagi by atropin, as shown in the following experiment:

Experiment No. 7. Dog: weight, 22 pounds.

Time. m. s.	Dose. Grams.	Pressure. mm.	Pulse. per min.	Resp. per min.	Remarks.
0:		140	204	24	Vagi paralyzed by a small dose of atropin.
5:00	2 c.c.	142	204	24	Injection begun.
:30		138	208	28	Injection ended.
7:00		140	206	28	
8:00	3 c.c.	140	206	26	Injection begun.
:30		110	188	30	Injection ended.
9:00		108	160	32	
10:30		84	158	36	
12:00		80	150	32	
15:00	3 c.c.	100	162	30	Injection begun.
:30		70	140	36	Injection ended.
18:00		65	130	38	
25:00		50	110	32	
30:00		75	140	28	
50:00		200	138	26	
52:00					Killed with chloroform.

Experiment No. 8. Dog: weight, 26 pounds.

Time. m. s.	Dose. Grams.	Pressure. mm.	Pulse. per min.	Resp. per min.	Remarks.
0:		180	210	12	Vagi cut, canula in trachea.
5:00	5 c.c.	180	212	14	Injection begun.
:30		172	212	16	Injection ended.
6:30		160	180	22	
7:30		152	160	30	
9:30	5 c.c.	148	160	30	Injection begun.
10:00		130	168	32	Injection ended.
12:00		122	140	26	
20:00	15 c.c.	126	138	28	Injection begun.
21:00		110	120	18	Injection ended.
25:00		104	108	16	
28:00		98			Involuntary discharge of bloody urine; respiration labored; pulse very irregular; cyanosis.
35:00					Animal dies from a simultaneous arrest of its heart and respiration.

From the foregoing evidence it can be said that the reduction of the pulse rate is independent of any excitation of the cardio-inhibitory nerve centers, and is chiefly due to a cardiac influence. The changes observed on the pulse and the arterial pressure appear also to show that the latter falls owing mainly to an action on the heart directly. I do not believe the vaso-motor system is affected by apolysin, and if there be any influence exercised even in massive doses, it must be slight and subservient to that produced upon the heart itself. I could not, however, determine this point positively, since my experiments by severing the spinal cord were unsuccessful.

Respiration: As seen in the course of the above experiments, the increase in the number of respiratory movements produced by the apolysin, in both normal animals, as well as those in which both vagi had been previously paralyzed by atropin and by section, was an usual occurrence. The action, is therefore, central.

Temperature: Apolysin appears to exercise a slight influence on the bodily temperature of normal animals, except, perhaps, in very large doses. The accompanying experiments are self-explanatory.

Febrile temperatures, on the other hand, are easily reduced

by apolysin, even in comparatively small doses. For these experiments I first produced artificial fever in dogs, by intravenous injection of putrid blood; and in a second series of experiments the blood and the drug were administered together and the effects observed. For purposes of illustration I detail only one experiment, as follows:

Experiment No. 9. Dog: weight, 23 pounds.

Time m. s.	Dose. Grams.	Pressure. mm.	Rectal temp. C. scale.	Remarks.
0:		172	39.2	
5:00	10 c.c.	172	39.3	Injection begun.
:30		168	39.3	Injection ended.
13:00		172	39.1	
15:00	10 c.c.	170	39.1	Injection begun.
:30		165	39.1	Injection ended.
20:00		168	39.	
30:00	10 c.c.	162	39.	Injection begun.
:30		160	39.	Injection ended.
45:00		166	38.8	
55:00		170	39.	
1 05:00		168	39.	
1 20:00	15 c.c.	170	39.1	Injection begun.
1 20:30		158	39.1	Injection ended.
1 35:00		156	39.	
1 45:00		160	38.8	
2 00:00		162	38.6	
2 15:00		168	38.	
2 30:00		170	38.4	
3 15:00		172	39.1	Animal killed with chloroform.

Experiment No. 10. Dog: weight, 18 pounds.

Time. h. m. s.	Dose. Grams.	Rectal temp. C. scale.	Remarks.
0:		39.5	Injections subcutaneously.
5:00	20 c.c.	39.5	
20:00		39.5	
35:00		39.4	
50:00		39.4	
1 05:00	20 c.c.	39.4	
30:00		39.3	
2 00:00	20 c.c.	39.2	
30:00		39.	
3 00:00		38.8	
30:00		39.8	
4 00:00		39.	
5 00:00		39.3	
30:00		39.4	Animal killed with chloroform.

Experiment 11.—Dog weighed thirty-two pounds. First day: In the normal state; at 10 a. m. the rectal temperature was 39.1 C.; 11 a. m., 39.1; 12 m., 39.2. In the fever state, 1 p. m., 39.2. Injected into

jugular vein three drops of putrid blood: 1:30 p. m., 39.3; 2 p. m., 39.8; 2:30 p. m., 40.3; 3 p. m., 41.3; 4 p,. m., 41.8.

Second day: 9:30 a. m., 39.4. Injected five drops of putrid blood; 10:30 a. m., 41.3. Injected three drops of putrid blood and 10 c.c. of apolysin solution; 10:45 a. m., 40.8; 11 a. m., 39.6. Injected three drops of blood and 10 c.c. of apolysin solution; 12 m., 39.3; 1 p. m., 39.2; 2 p. m., 39. Animal sacrificed with chloroform.

The same results were obtained in other similar experiments. But whether this reduction of febrile temperature by apolysin be the outcome of any direct or indirect action on the heat centers I am not prepared to state. In order to determine this point calorimetric studies are necessary. It is probable, however, that the influence of apolysin in reducing febrile temperatures is similar to that of phenacetin, with which the drug under consideration is identical, the antithermic effects depending on the separated paramidophenol.

Clinical Uses of Apolysin.—Apolysin has been employed in practical medicine not only as an antipyretic but as an analgesic as well. In both instances the drug is alleged to have given satisfactory results.

I have had no opportunity to try the drug in febrile patients, but in two cases, one of lumbago and the other of muscular rheumatism, in which pain was a prominent symptom, apolysin produced a prompt and quite effective relief.

Nencki and Jaworski have used the drug somewhat extensively, it seems, in disease to test both its antipyretic and analgesic properties. Observations were made in the treatment of croupous pneumonia, scarlet fever, typhoid fever, puerperal fever, influenza, pyemia, follicular tonsillitis, erysipelas, sciatica, headache and various kinds of neuralgia. The authors affirm that in the febrile affections mentioned, apolysin exercised a powerful antithermic action; that in neuralgic troubles it diminished the hyperesthesia, shortening the individual attacks, and at the same time alleviating the symptoms almost entirely. It is also stated by the same clinicians that owing to the fact that apolysin is easily decomposed by the gastric juice, the drug is contraindicated in hyperacidity of the stomach, and that

it ought not to be given if the latter organ be empty. Under these circumstances, however, according to Hildebrandt, apolysin may be administered in combination with bicarbonate of sodium, in the form of tablets, which effervesce on being dissolved in water, owing to the liberation of carbon dioxid.

All the authors here quoted seem to regard apolysin as superior to phenacetin, owing to its solubility and to its non-poisonousness even when ingested in comparatively large quantities; that the depressing effects upon the heart, which are distinctly seen in phenacetin due probably to the phenetidin which the latter remedy contains, are not observed under the action of apolysin.[1] Again, it is held that the innocuousness of apolysin is probably due to its similarity to citric acid, obeying the law expounded by M. von Nencki. According to this law the entrance of an acid group in a poisonous substance diminishes or entirely destroys its lethal properties. It is further asserted by these authors, especially by Seifert, as will be remembered, that apolysin is practically non-poisonous because it is not a simple salt of phenetidin, but a phenetidin permanently combined in an anilid-like form, and yet Nencki and Jaworski say that apolysin is easily decomposed by the gastric juice. The drug appears to be decomposed in the organism, since these latter authors, as the result of experimentation, affirm that apolysin taken in daily doses of 45 grains (3 grams) is, in part at least, eliminated in two forms, that is as paraamidophenol and paraphenitidin.

It has been shown by Treupel[2] that paraamidophenol, like paraacetamidophenol, when injected intravenously into dogs in the proportion of from 15 to 30 grains (1 to 2 grams) for every 2.2 pounds (1 kilo) of the body-weight, produces toxic effects, these being manifested by clonic and tonic spasms of the extremities, a rapid respiration, and paralysis of voluntary mo-

---

[1] See my paper on "Phenacetin as a Toxic Agent" in Transactions of Texas State Medical Association, 1895; also in Journal of the American Medical Association, May 11, 1895.

[2] Deutsche Med. Wochenschrift, No. 14, 1895.

tion. In the same class of animals, these substances in the proportion of 7.5 grains (0.5 grams) per 2.2 pounds (1 kilo) of the body-weight, caused somnolence, weakness in the hind extremities, cyanosis, vomiting accompanied with an increased secretion of tears and saliva, and the production of methemoglobin in the blood. It is said, moreover, that the reduction of fever in the human subject by both paraamidophenol and paraacetamidophenol is accompanied with chilliness, vomiting and tinnitus aurium.

But be all this as it may, and although fully agreeing with the statements of the authors referred to, as to the innocuousness of apolysin even when ingested in large amounts, and notwithstanding the assertion that the drug is usually reluctant to part with the phenetidin which it contains, care, I believe, should be exercised in the administration of apolysin. It is true, no case of poisoning by this agent in man, has been reported as yet, and although Nencki and Jaworski, Seifert and Hildebrandt have observed no lethal effects, I myself, have seen not only bad results but death also in the lower animals following the ingestion of apolysin. The results of Experiment 4 are here recalled. In this experiment intravenous injections of the new medicament finally caused death by a simultaneous cardiac and respiratory paralysis, the fatal issue being preceded by considerable hematuria, cyanosis and marked symptoms of asphyxia, changes, be it remembered, similar to those produced by paraamidophenol and those caused by paraphenetidin. Therefore, while I do not consider apolysin a toxic agent in ordinary therapeutic and even larger doses, I must certainly caution against its injudicious administration as a routine practice in all those cases calling for antipyretic and analgesic remedies. Apolysin may be given to adults in single doses varying from 15 to 30 grains (1 to 2 grams) by the mouth; to children in proportionate amounts according to age.

DIPHTHERIA AND PSEUDO DIPHTHERIA—THEIR DIFFERENTIAL DIAGNOSIS BY THE PRACTITIONER.

C. O. MATHEWS, M. D.

TERRELL.

Modern bacteriology has established beyond controversy that diphtheria is caused and caused only by a specific micro-organism known as the Klebs-Loeffler bacillus. In some of the large cities, notably, New York and Boston, where, by the aid of bacteriological examination, the diagnosis is now made with almost mathematical accuracy, it has been demonstrated that at least 50 per cent. of all cases clinically diagnosed as diphtheria were not the true disease. This has led to the addition of a new name to the catalogue of diseases—that of pseudo-diphtheria. The name is applied to those cases which closely resemble diphtheria in clinical symptoms, character and location of membrane, etc., but which run a milder course, and in which, by bacteriological examinations, the Klebs-Loeffler bacillus can not be found, and streptococci and other bacteria are present in large numbers. Efforts have been made to find a specific micro-organism for pseudo-diphtheria, and a bacillus has been described which closely resembles the Loeffler bacillus in appearance, but differing from it in that it has no pathogenic properties in guinea pigs, and does not grow on gelatine at ordinary temperatures. This has been called the pseudo-diphtheria bacillus, but it is by most authorities considered doubtful if its morphological and cultural differences are sufficient to establish a real difference between it and the diphtheria bacillus. Hence it has been advised that all cases in which it is found be considered diphtheria. This bacillus has been so rarely found, however,

especially in this country, that its existence may be ignored. The streptococcus being the only micro-organism constantly present in pseudo-diphtheria is regarded as its ætiological factor.

It is the teaching of the best authorities that a different diagnosis between diphtheria and pseudo-diphtheria is practically impossible without a bacteriological examination. This is perplexing to the general practitioner since the lack of necessary appliances and technical information places bacteriological work beyond him, while a determination of which disease he has to deal affects somewhat the treatment, and very greatly the prognosis and the prophylatic measures to be practiced. This has, doubtless, caused some practitioners to adopt the pernicious habit of calling all cases of pseudo-membranous affections of the upper air passages diphtheria. A patient having pseudo-diphtheria may, of course, survive a treatment intended for diphtheria, but who can estimate the damage done the patient and his family by the unnecessary alarm, to say nothing of the inconveniences of quarantining the family, and the mockery of disinfecting noninfected apartments, and the probable destruction of clothing and bedding?

If, on the other hand, a case of diphtheria is diagnosed pseudo-diphtheria, no precautions being taken to prevent the spread of the disease, and an epidemic with great loss of life results, an injured community will probably make it very unpleasant for the hapless practitioner afterwards.

New York city has largely relieved her practitioners of the grave responsibility of a diagnosis of suspected cases of diphtheria by establishing a special laboratory for the free diagnosis of suspicious cases. Other large cities will doubtless follow her example, and it has been suggested that each State might establish district laboratories, located with especial regard to conveniences of transportation and wire communications, so that, through them, the general practitioner might have a diagnosis in twenty-four hours. Even if diphtheria prevailed to such an extent in Texas as to render the establishment of such

laboratories a necessity, it would, of course, be impossible to secure them, judging from the past experiences of the profession with the law-makers in this State.

How then, it may well be asked, is the general practitioner to make a differential diagnosis between diphtheria and pseudo-diphtheria? It would be folly to claim he can do so with desired accuracy. Probably the best that can be done by the practitioner is to have always in mind, in addition to a clinical picture of each disease, those characteristics which differentiate them, so that any suspected or doubtful case may be readily compared with these pictures, looking particularly into all evidence throwing light on its origin, and classed accordingly. True, after-coming evidence from observation as to infectiousness, sequelæ, mortality, etc., may reverse the diagnosis, but it should be remembered that final evidence has been known to alter diagnoses made of other diseases.

Where diphtheria is very prevalent, absolute necessity may demand the establishment of laboratories for diagnostic purposes. But, even then, the practitioner must often, at least for a time, assume the responsibility of a diagnosis.

Besides origin, the differential characteristics are infectiousness, sequelæ, and mortality.

First, origin: Diphtheria always originates from an antecedent case. True, the diphtheria bacillus is very tenaceous of life, and its route from victim to victim is often so round-about as to elude the most industrious efforts to trace it. Yet in those cities where the crucial test of a bacteriological examination is applied in diagnosis, a clear history is obtained in a majority of cases, of direct or indirect contact with persons having or having recently had diphtheria, or with clothing from such persons. Spontaneous generation or sporadic diphtheria does not occur. So-called sporadic cases always originate from pre-existing cases, and inability to trace the contagium to a source in a considerable number of cases, especially outside of cities where the difficulty is certainly greatest, is strong presumptive evidence that the affection is not diphtheria.

In pseudo-diphtheria, on the other hand, an antecedent case is not considered essential, since no specific micro-organism is known as a factor in its ætiology. The streptococci and staphylococci found in this affection can not be distinguished morphologically or biologically from those constantly found in pus. These bacteria, conceded to be everywhere at all times, which, under certain influences, are pus-producers, are, under others, believed to be productive of a pseudo-membraneous inflammation. What these influences are is unknown.

Second, infectiousness: One of the most difficult problems with which the profession has to deal is how to manage diphtheretic cases as to prevent infection of others. That the problem has not been satisfactorily solved there is abundant evidence. It is well known how frequently others are infected with diphtheria in spite of all known methods of disinfection and the most stringent quarantining possible.

Pseudo diphtheria is very slightly infectious. A few instances only are on record in which more than one case ocrurred in the same family. In New York City pseudo-diphtheria is not visited by the health department inspectors, while diphtheria is subjected to the usual rules and regulations covering contagious diseases.

Third. The sequelæ.—The most frequent and characteristic sequel of diphtheria is paralysis, which develops usually about two weeks after all evidence of the acute disease has disappeared, but occasionally appears during the course of the primary affection. It has been estimated that this sequel occurs in one-tenth of all patients who have had diphtheria, and in one-third of the grave cases. The muscles of the soft palate and pharynx are most frequently affected, although those of the neck, trunk and extremities are not infrequently involved, and even the rectum, bladder and special senses in the more complete form.

As to paralysis accompanying or following pseudo-diphtheria, the records are silent, and it may be assumed that it is at least a very rare occurrence.

Fourth. Mortality.—The death rate in diphtheria treated without antitoxin varies from 40 to 60 per cent. It was stated in a recent paper read before the New York State Medical Association that in a table prepared by Dr. W. H. Welch, of Baltimore, it was found that the average mortality from diphtheria in hospitals during the years preceding the use of antitoxin was 43.6 per cent; and that the mortality in 5,777 cases occurring in the same hospitals, and treated with antitoxin was 18.7 per cent. In pseudo-diphtheria the average death rate is, according to Biggs, Park and others, only about 6 per cent.

Scattered cases of pseudo membraneous affection of the upper air passages, without known infection from similar cases, running usually a mild course, which prove to be feebly if at all infectious, without paralysis as a sequel, in which the mortality is very low, may be said with as much certainty as the practitioner is ordinarily warranted in using, are not diphtheria.

In the *Medical Record* of March 28th of this year, a physician residing in Mexico reports a "Successful Treatment of Diphtheria Without Antitoxin." The treatment consists of the internal administration of fl. ext. polk root and tincture of aconite, and the use of a gargle containing peroxide of hydrogen. If the patient could not afford the expense of the peroxide hydrogen, carbolic acid, oil of eucalyptus or tincture of iodine was substituted for it. The bowels were attended to and a tonic given during convalescence. "Hundreds of cases were treated after this method, with prompt and complete recovery in all cases," and the physician adds, "Antitoxin could do no better." If this physician could convince the profession that he really treated so many cases of diphtheria with such results, his name would undoubtedly be well known.

In speaking of the modern diagnosis and treatment of diphtheria, the *New York Medical Record* says, editorially, on page 624 of vol. 44, that "All the numberless contributions to diphtheria therapeutics which have been made so industriously for fifty years must be thrown aside as valueless, or nearly so. For we know that all the gentlemen who have reported a new treat-

ment of diphtheria with a trifling mortality rate, have simply not been treating diphtheria at all." In speaking of the bacteriological and clinical work of Dr. F. H. Williams in diphtheria at the Department for Contagious Diseases of the Boston City Hospital, the same editorial says: "His figures show much the same thing as do those of the New York City Board of Health. In other words, in Boston, as well as New York, only about one-half of the cases diognosticated as diphtheria are really such. The mortality is low in pseudo-diphtheria and very high in true diphtheria."

It may not be inappropriate to consider here the relationship which exists between diphtheria and pseudo-diphtheria on the one hand, and membraneous croup on the other.

The identity of membraneous croup and diphtheria has long been held by many authorities, and as long and as strenuously denied by others.

Some authorities, while admitting that many cases of membraneous croup were diphtheria, recognized what was called primary croup. It was described as an acute, non-infectious disease of the lungs, which was not epidemic, but characterized by the formation of a false membrane in the larynx, which caused the principal symptoms of dyspnea and hoarseness, and very frequently resulted in death.

Since the recognition of pseudo-diphtheria, it is believed that all cases of membraneous croup which are not diphtheretic laryngitis are pseudo-diphtheretic laryngitis.

It is well known that the location of the membrane on the mucous membrane of the larynx constitutes what is known as membraneous croup. The membrane may, of course, originate in or extend from above or below to the larynx, but the condition is the same—that of laryngeal stenosis, which is responsible for the symptoms characteristic of croup.

In a bacteriological study of thirty cases of membraneous croup admitted to the Willard Parker Hospital in New York, in four consecutive months, it was found by Dr. W. H. Parks that fourteen were due to the diphtheria or Klebs-Lœfler bacillus,

and in sixteen, streptococci, only, were found. In summarizing, Dr. Parks remarks: "The sixteen cases occurring in four consecutive months prove that membraneous croup is frequently an independent disease, having no connection with diphtheria."

As a result of these studies Dr. Parks believes that "Severe uncomplicated pseudo-membraneous laryngitis may be either true or pseudo-diphtheria. The early clinical diagnosis is frequently impossible. Low temperature, great prostration and heart failure point to diphtheria. A high temperature, lung complications and no history of infection are in favor of pseudo-diphtheria. Death occurs usually early, due to heart failure in diphtheria. Usually, later, due to broncho-pneumonia in pseudo-diphtheria. In both early death from suffocation may occur, if intubation or tracheotomy is not performed."

Dr. Biggs, of the New York City Health Department, has found that about 80 per cent of all cases of membraneous croup reported to the Health Department for examination are diphtheria, and advises that all cases of membraneous croup be managed as diphtheria until a bacteriological examination shows they are not.

The difficulty in determining whether a given case of membraneous croup is diphtheria or pseudo-diphtheria is possibly some greater than is usually encountered in distinguishing between these two affections. For in membraneous croup there is frequently no membrane above the larynx, and consequently none can be seen without the laryngoscope. Here, as in other suspected cases, history of the origin must be the practitioner's principal reliance in forming an early diagnosis. Later evidence as to infectiousness will tend to prove or disprove its accuracy. When a number of cases have been treated the final and most conclusive evidence is obtained from observations as to frequency of the occurrence of paralysis as a sequelæ and of the death rate.

DISCUSSION.

DR. H. A. WEST, of Galveston: There is one thing I want to say, Mr. Chairman, and it is as much in reply to something mentioned in your report as to anything mentioned in the paper. You remember you said you would like to see the man who would depend on the antitoxin treatment alone in the treatment of diphtheria. I believe that there are very few men in the medical profession who would depend on this treatment alone. My idea of antitoxin treatment is that it meets chiefly one particular indication, which is expressed in its name. It is *antitoxine*—that is, it counteracts the effects of the toxin. Some of the symptoms of diphtheria are due to absorption of special poisons into the blood and their effects upon the tissues. The antitoxin treatment of diphtheria is directed to that indication, and as stated in the paper read before you, there are several other important indications. Diphtheria being a local disease, the question having been settled that it commences at the seat of infection by bacilli lodged on the mucous membrane, an important indication is to arrest the progress and development of the micro-organisms, to kill them at the site of infection; not only for the purpose of preventing them from growing, but of obviating further absorption of the toxalbumins into the blood and additional effects upon the tissues and organs. So that then the indications for local treament have not been abrogated; not one iota, since the discovery of the anti-toxin treatment. The indications are the same, to dissipate the effects of the Klebs-Loeffler bacilli upon the mucous membrane, to prevent their growth and multiplication, to preclude the further introduction of toxins into the blood. So then, I say, that no man who understands the principle of anti-toxin treatment will be fool enough to depend on that alone. When these cases are first seen, bear in mind that we can never know the extent of poisoning which has already occurred; that the toxalbumins are intensely poisonous; that one six hundred and fortieth of a grain is sufficient to kill a rabbit. The antitoxin serum acts as a specific antidote against these poisons, and I believe that it is one of the greatest discoveries ever made in medicine: that it takes rank with the discovery of tubercular bacilli by Koch and of vaccination by Jenner.

Alcohol food and stimulants are still indicated to keep up the patient's strength and give his system power to throw off the poison. One reason I presented my paper on this subject was on account of the spirit of skepticism manifest in the Association against this treatment. I am sorry to say I have not had time to prepare a paper worthy of the Association on this subject.

DR. W. L. YORK, of Decatur: Dr. West has brought out in his discussion the very point that I hoped would be brought out from my

report. I based that report on some journal articles I have read in the last few months, where the antitoxin treatment was suggested as the sole remedy used in the treatment of diphtheria. I worded that to bring out just what Dr. West has brought out. I wanted the matter so placed before the Association as to show up that antitoxin was what its name indicates and nothing else: and I am very glad indeed that Dr. West has brought that out, and take this occasion to thank him for it.

DR. WEST: There is one point I neglected to mention. I stated that the claim for the antitoxin serum was based chiefly upon its antagonistic effects to the absorbed toxalbumins of the disease, but in the literature on the subject which has been accessible to me in the very brief and imperfect way in which I have had opportunity to investigate it, I notice the statement that of all forms of diphtheria where the antitoxin is of the greatest service are cases of laryngeal diphtheria. I notice that the claim is made that under its inflence the exudation in the throat melts down and disappears in very much shorter time than it does under ordinary treatment. Now, if this is the case; if the antitoxin has lowered the mortality in laryngeal diphtheria, if indeed a remedy has been found which can be relied upon to combat one of the most terrible diseases we are ever called upon to treat, then truly it is a boon to humanity. I remember on one occasion I asked an old friend and teacher of mine, a man who had had a great deal of experience in the treatment of diphtheria and diseases of children, after I had had a personal experience in the loss of a child from membranous diphtheria: I said, "Doctor, how many cases of membraneous croup did you ever see get well?" He held up his hand; that is to say, he could count them on his fingers, after an experience of years. Now, gentlemen, if we have an agent that can change such results as that who would dare not to use it? Dr. Wm. H. Welch in the resume that he has made up to this time from all the important literature of the subject, claims that the mortality in laryngeal diphtheria has been enormously reduced, and states emphatically "*that in anti-diphtheria serum we have an agent of the greatest possible value, and that it is the duty of the physician to use it.*"

DR. W. B. WEST, of Fort Worth: I would like to emphasize what Dr. West says in regard to antitoxin. Dr. Sears says the best results have been obtained with bichloride of mercury. For years I have used bichloride of mercury and also mild chloride with very bad results. Last year I lost several patients while using that treatment. Last winter I used antitoxin with success; and whether it was the antitoxin that cured those patients, or whether they got well in spite of my treatment, I can not say: however, they died under every other

treatment I had ever used. When I used antitoxin treatment, in twelve or thirteen hours I imagined I saw a result, as Dr. West says, upon that deposit. You see the white deposit when you use the antitoxin, in thirteen to eighteen hours after it is used, presenting a red line around it. The line of demarcation. It is simply a red line around this white, milky deposit. Whenever you see this line—or, that has been my experience—whenever I have seen this contraction or red mark around this false patch I know my cases are going to get well. It showed that the antitoxin was taking effect. Some tell us the antitoxin should not be used after the third day. I believe, gentlemen, that antitoxin is the greatest thing in the world, in these cases, even at the very last moment. Tracheotomy as a rule has been a failure from the fact that we put it off until there is nothing to sustain the condition of the child, and they will die before they recover from the operation, or in a few days by return of membrane. It is a terrible operation, when we take into consideration the number of recoveries, mere butchery. You put it off to the last moment, and they consequently die. If we perform tracheotomy the patient can breathe until the antitoxin can take effect, and when the antitoxin takes effect I believe the operation of tracheotomy will be a success. I have had this result in Fort Worth. In the first place, I want to say, I do not believe there is any difference between membranous croup and diphtheria. In fact, you will find in any healthy mouth the Klebs-Loeffler bacillus. You can find it between the teeth of nearly any healthy subject. In a hundred cases ninety-five will have the Klebs-Loeffler bacillus: then why should that be any more the cause of diphtheria than the micrococcus which Dr. Oertel taught us was the germ of diphtheria? However, I am prepared to say I simply try to build on antitoxin. I had seven cases of so-called diphtheria, and one of those cases died from constitutional involvment and exhaustion. I used all the stimulants, and everything that we usually use in cases of that sort, and bichloride of mercury. I have found, with Dr. West, that if you were to rely upon antitoxin alone you would be foolish. We do not rely upon any one method. We know that bichloride of mercury and iodide of potash are specifics in certain diseases. But we do not rely upon any one method. We must support the patient. In these cases that I had, the first case died. I was rather against the use of antitoxin. Did not know anything about it and did not like to jump in the dark, and did not use it on first case, but I had a little child whose glands were terribly swollen; I never saw a worse case of diphtheria. In the high fever that she had, fever blisters resulted; these pustules were formed on the outside of the mouth, and cultures were made from these blisters, and every one of them was impregnated

with these bacilli. That child in fourteen hours after antitoxin was administered showed every indication of being under the influence of it, and went on and got well without any trouble. Two other children in the same family had the same disease and recovered. In every case that I used it in afterwards I had the same success, and I believe today that antitoxin is the greatest boon that has ever been handed down to us.

DR. F. S. WHITE, of Terrell: This question occurs to me in regard to the antitoxin treatment. If such brilliant results follow the administration of antitoxin, if it prevents the formation of the toxalbumins and counteracts their effects after they have been absorbed into the system, and destroys the effects of the Klebs-Loeffler bacillus, then where is the use of using anything else? That is the sole object of other treatment; that is, to prevent the absorption, and counteract their effects afterwards. Then if that be the fact, it occurs to me there is no use in using anything else. Now, I am inclined to believe that there is a considerable benefit from the use of antitoxin, but I don't accept it with the enthusiasm that some men do. I believe there is good in it, just as there is in the application of other serum therapeutics; but I think the tendency is to accept it with too much enthusiasm and attach too much importance to it. Then there is another question, and an important one to the average practitioners throughout the country: we have not the facilities for making a bacteriological examination, and we have not the time to forward the specimens to a laboratory; what are we going to do? We have a well developed case, with the symptoms of white deposit, depression and collapse that go along with other cases. Are we to say that these are cases of simple follicular tonsilitis, or shall we accept them as diphtheria and treat them accordingly, when the symptoms and probabilities are in favor of their being diphtheria? If we let these simple cases go, and they are really diphtheria, great harm may be done. There are grades of diphtheria as well as of other diseases. You might just as well say there is only one grade of typhoid fever; that there are no walking cases. The reports from the hospitals of New York City show that there are cases of diphtheria that never go to bed, that are brought before the clinic. Any man who has attended a hospital clinic in recent years has seen these cases demonstrated in the amphitheater of a hospital. The point I want to make is, what are we to do with these doubtful cases? We can not tell whether they are pseudo-diphtheria or diphtheria. Must we sit idly by and not use anti-diphtheritic treatment, and let the patient die, or must we act on the safe side and give them treatment we would give in a case of undoubted diphtheria after the existence of it has been demonstrated

by a bacteriological examination? If I understood Dr. West properly, he said any man was foolish to use nothing but antitoxin; then he went on to say that antitoxin dissipated not only the toxalbumin but prevents the formation of the germs, and prevents their absorption and counteracts the toxalbumin that has already been absorbed into the blood. That is the way I understood him: if I understood him correctly, and if antitoxin has the effect he says it has, then there is no use of using anything else.

DR. H. A. WEST: The points suggested by Dr. White were I think fully explained in the paper read by myself entitled "Some Settled Questions in regard to Diphtheria," and in the subsequent discussion, but as that paper contained nothing which has not appeared in the newer text books and current journal literature, I have thought it best to leave it out of the transactions. My excuse for taking advantage of my position and having the last word is the great importance of the subject and necessity for clearly defining the power and limitations in the use of the anti-diphtheria serum, also the warrant for my assertion that it was folly to depend upon it only, in treating the disease.

1st. The serum has no effect upon the causative bacilli: hence local treatment of the kind which has heretofore been found useful for the purpose of destroying the specific micro-organisms, preventing the extension of membranous exudation, obviating mechanical obstruction, and inhibiting further absorption of toxalbumins is indicated now as before. 2d. So far as is known the serum has no effect upon either the local or constitutional results of the widely distributed streptococcus and staphylococcus infections with which diphtheria is frequently associated, hence remedies are indicated to meet the symptoms due to such infections. 3rd. The use of the serum while acting as a specific antidote against the toxalbumins does not therefore obviate the necessity for the administration of nourishing food and stimulants which have clinically been found to aid in the accomplishment of the same purpose. 4th. Because experimentally the serum has appeared to diminish the mortality in laryngeal diphtheria we can not therefore dispense with remedies of an operative, mechanical, or resolvent nature which have been distinctly proven to save life. 5th. Many cases are met with which in consequence of delay in resorting to treatment such large amounts of the toxic proteids have been absorbed as not only to justify, but render imperatively necessary the resort to every known method to aid in combatting the deleterious results. In other words, because we have a new weapon to fight a terrible enemy is no reason to discard the old ones, which contribute to the same end in a different way.

DR. E. A. WOLDERT, of Tyler: Mr. Chairman, if the older mem-

bers of this Association have spoken on this subject I would like to make a few remarks on the etiology and nomenclature of diphtheria. In the first place, the "object of law is to establish justice, and the object of experimental medicine is to establish a cause. The invariable antecedent is the cause, the invariable consequent the effect. Observation is finding a fact, experiment is making one. To find a cause we must vary the circumstances and resort to observation and experiment. It is unfortunate for medicine, like other inductive sciences, that certain causes will produce an inter-mixture of effects, and we must not only resort to the above methods, but we must resort to the method of agreement, the method of difference, and the method of concomitant variations." If we apply this method to our etiology we must first find out what a coccus is. First we have the monococcus composed of a single round cell, and the diplococci, arranged in pairs, if there are four arranged in a cluster, they are called tetracocci; if in the shape of a bunch of grapes they are called staphylococci, and if in chains they are called streptococci. I do not believe that any one has ever established the fact by experimenting upon animals that the monococcus, the diplococci, the tetracocci, the streptococci, or any bacillus but the bacillus of Loeffler produce diphtheria. Of course, at certain times it is associated with other germs, but they are not the real cause of diphtheria. The presence of a false membrane in the throat is not necessarily diphtheria, because a false membrane may be produced by inhaling steam or ammonia. I believe it has been proved that the Klebs-Loeffler bacillus is the cause of diphtheria. When I speak of diphtheria, I do not include the words "false diphtheria," for it is out of place and at the present time am therefore in favor of eliminating the word "false" when it comes to the nomenclature of diphtheria or any other disease, and use the word "diphtheria" when the signs and symptoms are associated with the Klebs-Loeffler bacillus.

DR. J. H. SMART, of Dallas: I think that the doctor preceding me is mistaken in his statement that the Klebs-Loeffler bacillus is found in many healthy throats. Dr. W. H. Park, and others, in investigating this subject have seldom found it present, and were able to trace each of these individuals to an exposure to diphtheria. The normal throat does not contain the Klebs-Loeffler bacillus. That the germ is malignant has been clearly demonstrated many times in experiments on animals.

In using antitoxin, we should not forget the advantage we have in preventing a spread of the disease by the use of immunizing injections on those who are exposed to the contagion. Dr. Biggs states that comparative immunity may be produced for nearly thirty days.

In an investigation on follecular tonsilitis in children, Dr. Koplick

has, in some cases, demonstrated the presence of virulent diphtheria bacilli. The bacilli were found only in the deeper part of the follicles. These cases of lacunar diphtheria have conveyed the infection to others who have developed the severest type of diphtheria. Cultures should be made from the throat where follicular tonsilitis follows any exposure to diphtheria.

DR. MATHEWS: I want to notice first the remarks of Dr. West, of Fort Worth, as to the relative frequency of occurrence of the Klebs-Loeffler bacillus. You will remember that he made the statement that the Klebs-Loeffler bacillus could be found in any healthy throat. I think the doctor must be mistaken. True, it has been found in cases in which there were no clinical symptoms, but only in those places where diphtheria was epidemic. My understanding is that something besides the presence of the Klebs-Loeffler bacillus is necessary for diphtheria to exist—an abrasion of the mucous membrane. It may be present and entirely harmless in the absence of an abrasion. Hence the presence of the Klebs-Loeffler bacillus in a healthy throat does not constitute diphtheria; however, it may be present where diphtheria is prevalent or epidemic. Dr. Smart, of Dallas, referred to the observations of Dr. W. H. Parks, of New York. Dr. Parks undertook the clinical and bacteriological study of so-called cases of diphtheria that were admitted to the Willard Parker hospital. Those cases, the report of which I read very carefully, consisted of a hundred and fifty-nine cases, in which a clinical diagnosis of diphtheria had been made. The Klebs-Loeffler bacillus was found in fifty four; in the remainder of the hundred and fifty-nine cases they were not, notwithstanding they were in New York City, where diphtheria is always more or less prevalent. That would tend to show, gentlemen, that contrary to the bacillus being always present in normal throats, it is not always present even in cases clinically diagnosed as diphtheria. In reference to the point raised by Dr. White, as to how the practitioner was to manage a case suspected of being diphtharia, I believe I can add nothing to what was in the paper. In the absence of a bacteriological examination his main reliance in forming an early diagnosis must be the history of the origin of the disease. If there can not be traced in any of the large number of cases a contagion back to an antecedent case, in the present light I should say the case was not diphtheria but pseudo-diphtheria. Concerning the treatment of diphtheria by antitoxin, I believe I can add nothing to what has already been said. The experience of men who have used it in a large number of cases has shown very conclusively that it has diminished mortality from the disease about one-half. I think nothing else is necessary to be said on that point.

A REPORT OF A CASE OF ATYPICAL TYPHOID FEVER, COMPLICATED BY THROMBI OF THE RIGHT AND LEFT CRURAL VEINS.

LAWRENCE ASHTON, M. D.,

DALLAS.

Miss B....., a resident of Norwich, Conn., aged 27, after two years spent abroad, reached Dallas September 27th, with slight fever, believed to be due to fatigue incident to travel and change of climate. Not improving, however, your reporter was called to see this case, eight days after arrival, when upon examination, the following conditions were found to exist:

Great nervousness, persistent headache, nausea, constipation, tongue coated, with red edges; temperature 103° morning; 101° evening; pulse 120. This condition of things continued, that is, morning rise of temperature and pulse, with a fall each evening to 100° or 101°, until October 30th, when the exacerbations occurred each evening, ranging from 104° in the evening to 101° in the morning; November 5th, when she had a profuse hemorrhage from the bowels, with extreme prostration; the hemorrhages occurred at intervals until November 15th. There were no hemorrhages after this time, but the stools were liquid, very offensive and passed involuntarily. Fever continued until December 12th. There was constant delirum, which continued for weeks after the patient was free from fever. For several weeks it was necessary to use the catheter, on account of inability to pass urine.

On December 1st the patient complained of pains in the right leg, which soon became greatly swollen, tense and hot. The pain was so great that nothing afforded relief but large doses of

morphia and atrophia administered hypodermatically. As the inflammation in the right limb was subdued, the left leg showed the same conditions, with the most intense suffering imaginable. Later there was marked neuritis of the hands and arms.

The diet in this case from the beginning was chiefly of milk, or milk diluted with lime water, aerated waters, or malted milk and beef juice.

TREATMENT.—For the pyrexia the Brand method was strictly carried out, the patient remaining in the bath from fifteen to twenty minutes, taken out and wrapped in dry sheets and covered with a light blanket. The antiseptic medication consisted in the administration of small doses of corrosive sublimate, napthol, carbonate of creasote and guiacal.

Tympanitis and abdominal pains were treated by turpentine stupes. Hemorrhages from the bowels were treated with opium and acetate of lead, or hypodermics of morphia and strychnine, and ice bag applied over the abdomen, which, for the time being, always controlled the hemorrhages.

The enlargement and œdema of the lower limbs, due to thrombi in the crural veins, was treated by elevation of the limbs and local applications of flannels wrung out of extract of witchhazel, made as warm as the patient could bear it. Strychnine hypordermically was administered constantly in gradually increasing doses, until this lady was taking $\frac{1}{15}$ of a grain every four hours.

She received but little medicine by the mouth, as the stomach rejected almost every thing. Alcohol was never retained in any form.

This poor woman has made a slow recovery, and on April 15th, nearly seven months from the time she was taken sick, she was able to return to her home.

DISCUSSION.

DR. H. A. WEST, Galveston: This is an interesting subject to me. As I stated yesterday, it appears that there are questions in regard to

typhoid fever that are yet very far from being settled, and one of them is as to the presence of the eruption in the fevers of the interior. As previously mentioned, my experience in the hospital of Galveston, and in private practice, is that the eruption is just as universally present in Texas as it is elsewhere over the world, but I have been informed by Dr. Tate and other gentlemen that they have not found the eruption in cases of typhoid fever they have treated, after careful examination in a great majority of cases. Now, the eruption is such an important factor in the diagnosis of enteric fever, that if usually absent in the fevers of the interior the fact should be thoroughly established.

DR. ASHTON: With this lady the eruption made its appearance in the fourth week. There were successive crops, lasting from twenty-four to forty-eight hours. My experience is that the eruption is only seen in typical cases of typhoid fever, such as described by Osler and other authorities. I am one of those who believe that all these cases of long-continued fever, or the so-called typho-malarial fever, is absolutely typhoid. I do not believe that a case of fever that does not respond to quinine (the only specific that I know of in malaria) can be a complicated case; and therefore I think it is a very unfortunate term for us to use, "typho-malarial fever." As to the eruption, I have a little girl eight years old with typhoid fever under treatment now. That girl had a fever eight days, when there was a typhoid rash over the abdomen, disappearing and recurring at intervals. It is a well marked case of typhoid fever with diarrhœa. I think you will find very few cases of the typical typhoid fever as laid down in the books in this country, but they are all cases of atypical typhoid fever, however.

DR. J. A. MCGEE, of Rice: I have been treating typhoid fever for eighteen years, and I never have found a rash in any case. We have all the symptoms of typhoid fever, hemorrhage of the bowels in many cases, and other characteristic symptoms. I have looked for the eruption in many cases, but never found it.

DR. R. A. MILLER, of Dublin: This is the first time I have ever appeared before this Association, but in speaking of typhoid fever, that is something I have had some experience in treating. I am very much inclined to the opinion of the gentleman that preceded me, that we have no such thing as so-called "typho-malarial fever," and that these continued forms of fever that last three or four weeks without cessation are genuine typhoid fever. Now, I have had a number of cases of typhoid fever in Dublin, where I live, and have been practicing for nineteen years, with profuse hemorrhage, in which there was no eruption whatever, and I can not for the life of me pronounce it any-

thing else than genuine typhoid fever. I see all the symptoms, dry and pointed tongue, and tenderness in the right illeum, and in fact over the entire abdomen, hemorrhage and diarrhœa; in fact all the symptoms characteristic of typhoid fever, but without the rash.

DR. WEST: I believe according to the present rules no person is allowed to speak twice upon a subject; but there was one remark made by Dr. Ashton, that these cases were not typical cases of typhoid fever that he was in the habit of seeing. It appears to me that this is an unfortunate term, and that the general use of this term has been the cause of a good deal of the confusion that exists in this State in regard to the recognition and nomenclature of typhoid fever. The fact of it is, we have different types of typhoid fever, and the mild one is just as typical as the severe. It is incorrect to speak only of the severe cases as the typical form. We have different types of typhoid fever, and perhaps just as many of the mild type as of the severe. What I wish to insist upon is that the rash in typhoid fever is just as common in the cases that I see as it is in those described by others, viz: about seventy-five per cent. To illustrate the importance of this diagnostic test, I had a boy who came to my office about a month ago with fever. He came at different times for a week or two, and would say at one time that he had no fever. I would take his temperature and find his mistake. Then he would not come for three or four days, the fever continuing in the meantime. Finding the temperature was not controlled by repeated doses of quinine, I put him on my operating table and found a few characteristic rose-colored spots. That boy was sick five or six weeks before he recovered; it was one of those cases of walking typhoid fever, and the presence of the eruption decided the diagnosis. There is another point in regard to the universality of the therapeutic or quinine test. I don't think it will do to lay it down as an invariable law that every case of malarial fever must necessarily yield to quinine. We may have continued forms of malarial fever, and they are to be recognized by the presence of the micro-organisms of that disease in the blood and by other evidences, which will not yield to quinine; while it is true as a general thing, these cases of remittant and continued malarial fever do yield to that remedy, although perhaps obstinately and stubbornly, yet I believe that under various circumstances, due to febrile lesions, inflammatory complications of the spleen and liver, continued exposure to the cause, under various circumstances, modified forms of the malarial parasites in the blood, because they have been improperly and irregularly treated with insufficient doses, we have many cases of malarial fever that will not yield to quinine, but a differential diagnosis between those cases and typhoid

fever can be made. For these reasons I do not believe it will do to lay it down that the therapeutic test is one of universal application.

DR. ASHTON: Do you mean to say that in those cases of malarial fever there is no intermission or complete remission for six weeks?

DR. WEST: I don't say for six weeks, but cases are not infrequent where there is apparently no fever at all—they are not confined to bed, but the thermometer will show a continuous rise of temperature, not varying very much in the twenty-four hours, unyielding to quinine, and the microscope demonstrating the malarial cause. There are different forms of remittent and continued malarial fever. Our conception of remittent fever should not be confined to the bilious forms of the old authors, but should embrace the milder, slower types. The nomenclature of malarial fevers needs revision in conformity with modern views and recent observations.

DR. B. F. BRITTAIN, of Arlington: Dr. West says that quinine is not always a positive diagnostic test. He is correct about that, and when I endorse him of course he is right. But for the first four or five days of the fever, when you can't tell whether you have got typhoid fever or malarial fever, the quinine is a sure and positive test. If you give it say three or four days, with a little mild purgative, if the fever don't give way, forty-nine times out of fifty you can say you have got typhoid fever. There are other ways of getting at it. For instance, with the microscope, but that is not practicable for two reasons. In the first place, there are not many of us that have microscopes; and in the second place, there are fewer of us that are experts in the use of the microscope, so we have to depend on the symptoms. Old Bowling, in Tennessee, thirty years ago, made quinine his test as to the presence of typhoid fever. As to the treatment of it, it is the man that does the least that cures—he don't cure them, but lets them get well. If you come to the conclusion that you have a case of typhoid fever, the best thing is the antiseptic treatment, fifteen grains of chlorate of potash and about thirty drops of muriatic acid, and let it stand in a partially closed bottle until you get all the chlorine disengaged, and put in fifteen ounces of water and an ounce of orange syrup, and your patient will like it and call for it. Well, half an ounce every two or three hours, according to the offensiveness of the discharge from the bowels, and you will cure ninety out of every hundred; that is, you will let ninety out of every hundred get well.

SECTION ON OBSTETRICS AND DISEASES OF CHILDREN.

REPORT OF CHAIRMAN J. J. WILLIAMSON, M. D.,

CLEBURNE.

Gentlemen of the Association:

In reviewing the recently published literature and statistics on the subjects embraced in this section we find that enormous advances have been made in midwifery, the treatment of children, and in the modification of obstetrical instruments. In view of the length of our programme, and the many valuable papers that should be read and discussed, I deem it advisible for me to refer to those matters only which are of special interest. Asepsis and antiseptics in midwifery, prophylaxis of eclampsia gravidum, modifications of craniotomy instruments, the introduction of the new axis traction forceps, diphtheria and associate diseases, etc.

Statistics have proven that clean midwifery, or the knowledge and application of asepsis and antiseptics in various lying-in institutions have reduced the mortality from 30 to 35 per 1000 to 3 to 5 per 1000. In private practice the mortality has not been reduced in the same ratio, but the results have been gratifying, and a rigid application of the aseptic and antiseptic precaution by the accoucheur and nurse would no doubt reduce the mortality as low or even lower than it is in the best conducted lying-in institutions. It has also been demonstrated that puerperal fever, or pueperal sepsis, is the result in most cases of the introduction into the system of a septic organism, which may be prevented by keeping the septic germs from the patient by

cleanliness and aseptic precaution. Corrosive sublimate is recognized as the strongest and best germicide in obstetrical practice. The usual precautions that are adopted are strict cleanliness upon the part of the medical man and nurse, as few vaginal examinations as the demands of the case will permit, the use of an antiseptic lubricant, and vaginal douches only in abnormal cases. Experience shows that healthy women whose labors are normal do as well without vaginal douches as with them.

Parturition is regarded as a normal act, and more importance should be attached to the general obstetrical management than to a single detail of practice. It is the consensus of opinion among those who are the best informed in the obstetrical art that in the majority of cases the infection is conveyed by the attending physician or midwife, and that the attendant should, during labor, remember the circumstances which favor puerperal fever, such as frequent examinations, operations, leaving bits of placenta or strips of membrane in the uterus, retention of clots, deep wounds, complicating diseases, and unhealthy sanitary surroundings. Many of these dangers are avoidable, and are the result of ignorance or carelessness.

Among other advances in midwifery is the prophylaxis of eclampsia gravidum. The practice of preventive medicine should be the chief aim and duty of the physician, and in no class of cases can he better attain to this eminence than by the successful prophylactic treatment of the convulsions peculiar to the pregnant or puerperal woman. . . . An early diagnosis is very essential to the preventive treatment, and to insure this the urine of every pregnant woman should be examined, together with a consideration of any auxiliary evidence available: and when albumen is found present, treatment should begin at once, and frequent examinations of the urine be made thereafter. The condition of the urine should be the guide for treatment rather than the symptoms of the patient, as there is often a lack of the premonitory symptoms, the first to appear being a convulsion.

Some of the usual premonitory symptoms are blindness, vertigo, severe headache, ringing in the ears, and which usually

precede the eclamptic attack. These symptoms, if not entirely absent, often precede the convulsion for so short a time that no opportunity is given for effective treatment. When these symptoms are present the most decisive treatment should be adopted, but the constant aim in the prophylactic treatment should be to anticipate and prevent them occurring, and if the condition of the urine is taken for the guide this can usually be accomplished.

The prophylactic treatment commonly adopted is the dietetic, medicinal, and, very seldom, operative. Most cases without scanty secretion may be carried through safely on the exclusive milk diet; but when the urine is scanty diuretics should be used, and when they fail, repeated purgations are indicated. . . . I deem it unnecessary to specify the various drugs to be used as diuretics, purgatives, etc., as there is no remedy that is known to be any better for albuminuria of pregnancy than for the same pathological conditions under other circumstances. In those cases where the renal secretions remain scanty and insufficient in spite of treatment, as a last resort the induction of premature labor is advised.

Other improvements were in obstetrical instruments, but I will mention only what is claimed for the modification of craniotomy instruments, and the advantages in the use of the new axis traction forceps. It is claimed that the modification of the craniotomy instruments had rendered that operation easier and much safer, and that the introduction of the axis traction forceps had allowed of delivery in cases in which it was previously thought impossible. The advantages claimed for the use of this instrument in *American Journal of Obstetrics* (Jan. No., 1895), are: That axis traction at the superior strait is perfect, and continues so, following the curve of Carus from the brim to the outlet, the axis of the blades being constantly parallel with the axis of the parturient canal as the head descends. Thus the accoucheur is enabled to fulfill a most important aim in forceps operation, namely, to deliver with the minimum amount of force. The operator in enabled to seize the head more advan-

tageously at the brim, and the facility with which it can be aided to descend in the axis of the pelvis would seem scarcely possible to one accustomed only to the ordinary forceps. By means of the set-screw with its scale the blades can be definitely fixed upon the child's head during the period of uterine contraction, and as readily released during the interims; thus intelligently simulating nature, and allowing free internal rotation of the head, while the danger of slipping, which is almost always due in the use of the ordinary forceps to a tiring of the muscles of the hand of the operator, is reduced to the minimum. It is easy of application, and is an effectual tractor and compressor. The blades are sufficiently strong to prevent slipping, and readily secure moderate transient compression of the flexible infantile cranium in its upper portion without pressing too strongly at its base with the tips. Thus it is a safe and efficient substitute for delivery by craniotomy or version in cases of even considerable pelvic contraction.

Diphtheria and its associates being so nearly confined to childhood, we presume that a partial review of what is now claimed to be known of the disease and its associates would be proper in this section.

Experiments have proven that diphtheria is an acute infectious disease due to the presence of a septic micro-organism, the Klebs-Loeffler bacillus; also that there is a pseudo or false diphtheria (croup) which represents an affection of the throat, resembling diphtheria, but is distinguished from diphtheria by the absence of the specific bacillus. Experiments also tend to show that the greatest mortality in cases of diphtheria appears to occur when the specific germ is associated with either the streptococcus or the stophylococcus.

The pseudo-diphtheria bacillus, or non-virulent bacillus, is said to be almost identical in microscopical appearance with the Klebs-Loeffler, and does not readily lose any of the characteristics on further cultivation. The likeness of the two microbes are said to be so nearly identical in appearance that it is impossible to detect any real difference either in form or arrange-

ment, and that the only method of distinguishing the pseudo-diphtheria bacillus from the Klebs-Loeffler organism is that when it is introduced into the bodies of rabbits or guinea pigs it is incapable of producing toxæmia, either in the person of the individual in whom it was found or by inoculation of the lower animals.

It is claimed that false membranes of essentially the same microscopic character as those of diphtherial origin have been reported as produced on the mucous lining of the buccal cavity and air passages by irritant poisons, solid, fluid, or gaseous, scalding water, scorching heat, and chemical or galvano-caustics. An experiment was performed of dropping a few minims of liquor ammonia into the trachea of a number of animals, producing in many instances an artificial croup.

In reviewing the literature on the treatment of diphtheria, and especially the serum treatment, we find quite a diversity of opinion exists among the profession, but the preponderance of evidence is that the antitoxin treatment does affect favorably a large number of diphtheria cases, and that it should be used early in the treatment of the disease; also that the mortality from diphtheria is destined to be largely reduced by the prompt and early use of antitoxin.

I have nothing of special interest to report, or rather anything that is new to the profession connected with the diseases peculiar to childhood; but before dismissing the subject I will state that there seems to be a want of proper interest upon the part of many members of the profession in regard to the care of infants. My observations lead me to believe that the mortality of childhood could be greatly reduced by a more intelligent and conservative care of children.

PUERPERAL SEPTICÆMIA—ITS RELATION TO ERYSIPELAS: WITH REPORT OF CASES.

W. M. YATER, M. D.,

GRANDVIEW.

Long before Fielheisen told us that erysipelas was due to the streptococcus, obstetricians were familiar with the dreaded infection which this disease communicated to puerperal women. It was not then known how the infection occurred. Precautionary measures were not so much as thought of. Tyler Smith, writing but forty years ago, indulged the hope that preventive measures offered a bright future for this malady which, according to his observations, often depopulated maternity hospitals. He tells us of a *few* of his friends who made a practice of washing their hands as a routine procedure, before examining women in confinement, especially if erysipelas was prevalent in their practice.

The microscope now tells us that in erysipelas and puerperal inflammations the lymph channels are literally blockaded with the streptococcus.

While it is admitted by most authorities that other germs besides the erysipelatous streptococci often produce puerperal sepsis, it is not denied that infection from erysipelas gives us far the most disastrous consequences. It is claimed by Lusk that when the patient develops peritonitis it is a sure sign that the infection occurred from erysipelas. On the other hand, there are those who disavow any connection between the two affections. I will quote Gusserow, an author cited by Senn in the latest edition of his work on surgery. He claims an extensive experience, and to have performed numerous experiments, and is prepared to positively deny their clinical or bacteriological identity. He

has often seen women with various grades of erysipelas, embracing the most malignant as well as simple, yet genuine types of erysipelas, enter the lying-in period, with positively no tendency in any of them to develop puerperal septic troubles.

Again, he affirms that experiments made with proven cultures of the streptococcus in which he endeavored to excite septic metritis and peritonitis in rabbits and mice, by injecting with the hypodermic syringe this germ, were invariably negative.

Perhaps if this represented the verdict of a majority of the investigators, we might not be able to so clearly admit the relationship of the two diseases. It seems on the contrary side of this question the weight of authority is almost unanimously in favor of establishing by experiment with the lower animals, that each one will produce the other. In those cases where women with erysipelas already developed are confined without developing septic inflammation, I will quote Osler, who tells us that patients recovering from erysipelas are protected for quite a while against the invasion of the same poison. So it would appear that every day a woman had erysipelas she was proportionately exempted from the danger of infection during confinement. I have never seen a lady with erysipelas enter confinement, so can only reason upon the subject, and attempt to harmonize the observations of conflicting authorities. Osler dogmatically affirms that "a physician in attendance upon a case of erysipelas should not attend cases of labor." While this is excellent authority, and evidently the safe side of the question, it is my observation that most physicians place sufficient confidence in disinfection to warrant them in safely entering the lying-in chamber.

I wish briefly to report a limited number of cases, wherein I was then, and am now, sure infection occurred from erysipelas.

These cases occurred a number of years ago and forever impressed me with the danger which does exist, even after what was supposed to be sufficient disinfection.

I attended a Mrs. G. in a case of facial erysipelas. Before she had fully recovered, her daughter, whith whom she lived, a

Mrs. W., was confined. She had a very easy labor, and while some measures were used to guard her against infection from erysipelas, I confess that I was not as particlar then as I would be at present. In a very few days she became very ill; first had a rigor, accompanied by intense headache, elevated temperature, suppression of lochia, followed by abdominal tympanites and local indications of inflammation, such as excessive tenderness of uterus and vagina; mucous membrane red and swollen. This patient may have been infected by several methods. She could have infected herself, as she had every day waited on her mother. Of course it was possible for me to have infected her, as I had a few days before visited her mother with erysipelas, but her mother doubtless rendered infection doubly sure by giving a vaginal douche without my knowledge, and with an old syringe at that. In the treatment of this case I was assisted by a brother M. D. Shortly after he had seen and examined this patient he attended a Mrs. Y. in her first confinement. The labor was tedious, and the perineum and cervical tissues were very much lacerated. Union was attempted by primary operation, using instruments and sutures obtained from the same obstetric satchel as were the instruments used in examining and treating the case of puerperal septicæmia. As I was present during the confinement of this lady, and assisted in closing the perineum, I wish to say in justice to my colleague and self, that at the time we had no doubt but what every precaution had been observed needed to obtain success in the case.

I wish to say by way of parenthesis, that this is one instance where an extensive laceration of the perineum occurred without the use of the forceps.

The union was only partial on account of the prompt intervention of septic trouble. A violent metritis and peritonitis was ushered in, by rigors and profuse sweats, high fever, headache, heavily coated tongue, severe pain in lower part of abdomen, with a characteristic wirey pulse. The vagina was dry, swoolen and extremely sensative. I have known her to have as many as

three violent rigors in a day, with temperature reaching 105° every day for a number of days.

Everything pointed to a most intense inflammation of the structures concerned in parturition. That this patient ever recovered was the wonder of all who saw her. I have often said that she had more severe rigors running over a longer period of time, with constant fever, than any case ever witnessed by me. She was confined to her bed eight weeks, and it was several months before her health was restored. In the light of the present literature is it not probable that pus was formed somewhere which, in the course of time, was removed by absorption?

One more case, the most interesting of all, and I am done: I saw a Mrs. M. in consultation a few days after confinement. To be brief, her symptoms pointed to a most intense puerperal septic trouble. After thoroughly irrigating the uterus and packing boracic acid around the *os*, and leaving a considerable quantity in the vagina, because of the highly inflamed appearance, she was given quinine and such other treatment as her special symptoms required. The following morning, when I saw her, there was an intensely red zone surrounding the posterior commissure of the vagina—by evening it embraced the inner surface of thighs, and was spreading over the buttocks. Her temperature was very high; pulse 140 to 160; great excitement of the nervous system; at times delirious; incontinence of fæces and urine. In another twelve hours the rapidly-spreading erysipelas had embraced the back as high as the shoulders. By this time the patient had passed from violent delirium to profound coma, and death closed the scene. A beautiful young mother had thus been suddenly snatched from the arms of her devoted husband, while the tender infant lingered but a few months, and its soul was wafted to the arms of its mother. Such instances as the above are sad, yet in the interest of science and humanity the truth must be told. I submit the question;—is it safe to attend a labor while engaged in treating erysipelas? I would answer, not unless the physician is willing to undergo a most rigid disinfection. Simply washing the hands in soap and water

will not do. Better take time to have a complete change of wearing apparel; and as for disinfecting the hands, a thorough scrubbing with warm water and strong soap, using the flesh brush freely; then use alcohol or ether freely to open the pores of the skin, after which they should be treated to bichloride 1 to 100, for several minutes. Before conducting an examination some antiseptic ointment should be spread over the entire hand, and certainly when once you have determined the labor to be a normal one, not another examination should be made per vaginum, unless the lapse of time and the force of the expulsive pains suggested the need of your interference.

DISCUSSION.

DR. B. A. FOWLER, of Brownwood: I appreciated the doctor's paper very much. It is on a subject which I think is greatly neglected by the general practitioner. We should use more care in obstetrical cases than we do in many instances. I was in a town some three years ago—Waxahachie—where there had been some six or eight deaths from puerperal fever, and five of them resulted from one case of erysipelas which had been carried on a lady's arm previously burned. The doctor who had been in attendance had used many precautions, trying to render his hand aseptic, but failed; and every case that he attended, up to five (when he positively refused to attend any more), had puerperal fever. I have made a rule to sterilize my hands by washing them as clean as I could with soap and hot water, and then using a solution that I carry in my case of one to five hundred of bichloride and glycerine; and since then I have not had a single case of puerperal fever.

DR. B. F. BRITTAIN, of Arlington: Gentlemen, I have not much to say, and will be through right quick. This thing of the antiseptic treatment of women in childbed is a very interesting subject. I just want to remark here that the man that is cleanly can wait on a case of erysipelas and then go and wait on a case of confinement without any danger of infection. That is a pretty broad assertion, but I will stick to it: the way to do it is to be clean. Now, gentlemen, I must acknowledge that years ago, before there was anything known about the antiseptic treatment, through my ignorance—and I followed the books, too—I let many a woman die. I don't know whether you

younger ones have seen childbed fever much. I used to see a good deal of it. I would go to see a woman, and would make digital examination without washing my hands, and to save the washer-woman from trouble, I would call for some old gown that had been thrown aside and slip them under her—the worst thing I could have done. When the antiseptic treatment came in, I adopted it, and I think it has been ten or fifteen years since I have seen a case of childbed fever. When I go to see a woman I wash my hands thoroughly before I touch her. I don't carry antiseptics with me, because I believe it is no use. Then another thing: Some clinicians advise you, to keep a woman from being poisoned, to use a syringe before labor and after labor. That is all bosh and tom-foolery In a discussion that occurred last September—I believe it was before the British Medical Association—Lusk said it was no use using them, because nature would clean everything out. I never wash a woman in advance. I would not have any objection to that, but then after the woman is confined, I tell the nurses to remove every particle of blood. In that same discussion in London Lusk said in New York they clipped the hair off of the pubic region, when about to be confined. Well, there would be just as much reason in directing the woman to be skinned from the navel to coccyx. After you have cleaned the woman thoroughly after delivery, direct her to cleanse the part with soap and water several times a day for ten days. Now, follow those directions and your patient will not have puerperal fever. I have followed out that course ten years, and I have had just as good success as those fellows that use a syringe. Now those same fellows in that British Association—I believe it was Hearne—said he had used the injections during confinement and after labor for a long period, but winds up his remarks by saying, there is no absolute need of a syringe. You let a fool get hold of that syringe and he will stick it in the vagina with some germs from the atmosphere in it. Never use the syringe unless to meet pathological conditions. If the discharge becomes offensive, then use the syringe, but pass hot water through it until you are certain it is clean, and then you can use it.

DR. FOWLER: I would like to ask Dr. Brittain if a solution of soap and water is sufficient to kill the erysipelas germ.

DR. BRITTAIN: I will just answer Dr. Fowler by saying that a man that keeps perfectly clean cannot carry a disease from one person to another, and soap and water is amply sufficient for all purposes. But this (I like to have said "infernal") thing of sticking an old dirty, stinking syringe, that has been laid away in a closet and that is full of microbes and everything else—is horrible, don't use it unless there is some pathological disturbance. If there is something offensive then use it.

DR. J. H. SEARS, Waco: I wish to say one word about women in confinement when you are treating a case of erysipelas. I look upon it as a criminal act for a doctor to attend women in confinement when he is treating a case of erysipelas. I have never done such a thing in my life. I have always let some other doctor attend the case who did not have an erysipelas patient. I do not believe in the douche as much as other doctors. I have the patient wash before going to bed. and have a clean gown and sheets, for cleanliness in confinement is everything. Then I make a pad of linten gauze and put it in a napkin, and put a binder around the woman to hold the lint in place, to absorb the discharge, and change it every few hours so as to keep the parts perfectly clean; you need not use a douche of any kind and the woman will do well. I haven't seen a case of puerperal fever for so long I thought they had gone out of fashion.

DR. A. E. MCMAHON, Marshall: This subject, puerperal septicæmia. is something that I never have believed in: that is, its origin and progress as taught. I never have believed in any of this treatment. In the first place, it is due to septic absorption, else we should not have fever. We should stop and think about the anatomical structure of the pelvic organs, and the changes that take place in those organs when labor is progressing. We have got to evacuate thoroughly the rectum, and empty the bladder and also to have the parts clean previously. Cleanliness is all I desire. I never use antiseptics, and never have fever to occur in my practice. Now, as I said, you have to think about the changes which take place. You must remember that the vagino-rectal fascia is of loose texture, and is dragged down and stretched in labor; therefore it is an easy matter for it to become congested, and there is always a more or less amount of laceration, whether it is on the surface or in the interior tissues, while the vagino-urethral fascia is dense: it is not loose like the vagino-rectal; and in these cases you will find it is covered, as a rule, with organisms. —whether it be streptococci, staphylococci, or any other kind of cocci. —If it is an absorptive process, and the absorption of septic material originates in this congestion, on account of lymph stasis and changes produced by proliferating organisms, and the main point is drainage. If we establish drainage thoroughly and prevent the deposition of organisms we have no trouble. Now, after a case of labor I invariably wash the case myself. I never turn it over to a nurse. I will wash that case myself and dress it myself. I cover up the outer tissues with absorbent cotton—or you can use any form of cotton as long as it is absolutely pure. My object is not to absorb, but to filter the air that falls upon the labia, where, if organisms gain admittance, they may travel up to uterus, proliferate and create much trouble. Any

vegetable organisms falling from the open air will readily revivify and travel up to the uterus, and sepsis will take place in the deeper tissues. All I want in those cases is asepsis and drainage.

DR. YATER: In closing this discussion, gentlemen, I only regret that I am not able to round up this subject and present it in a way that will be appreciated by you. I only desire to consume a moment in replying to Dr. Sears' statement that he has no faith in these germicides, and that he makes a practice of not attending a case of labor when he has a case of erysipelas. Now, we all have great respect for the opinion of Dr. Sears, or that of any old physician that has practiced as long as he has; as it is likely to carry great weight with it, but on the other hand we have Lusk and such men, who tell us that length of time cuts no figure after you have come in contact with a case of erysipelas. There have been cases no doubt where men have been engaged in the treatment of erysipelas and they would retire for a month, and then return to find that their women were infected with puerperal sepsis. He says you can do as much precaution in a half hour's work in disinfection as you can hope to gain by a month's isolation. So I believe firmly in the use of antiseptics.

REPORT OF A CASE OF CÆSAREAN SECTION.

J. E. GILCREEST, M. D.,

GAINESVILLE.

On the morning of December 5, 1895, I was called by Dr. Walker to see Mrs. B., who had been in labor nearly twenty-four hours. I arrived about four o'clock a. m., and found her suffering with very hard pains, the os well dilated; but on examination further, and inquiry, I found the patient had had hip-joint disease when seven years old, which terminated in suppuration, which continued four or five years, leaving her very much deformed. The right hip-joint was anchylosed, and there was a deformity of the pelvic bones; the antero-posterior diameter was diminished. Dr. Walker advised me to apply the forceps and see if the child could be delivered; but in trying to do so I found that it would be very difficult to lock the forceps, and then I did not not see how the head could be made to descend below the pubic arch, as it seemed to be jammed against it and not room to pass under. I, however, attempted to apply the forceps, but after getting one blade on I thought it would be impossible to deliver with them, and desisted any further efforts; and told Dr. Walker that we had better call in other counsel, as I thought it would be necessary to do something in the way of an operation. We accordingly sent for Dr. B., who arrived about 5 a. m. After he examined the case he desired to apply the forceps and make an effort, thinking that possibly he could deliver the child with forceps. He accordingly made an effort, which was fruitless in its effect. We then consulted with the husband and parents of the lady, telling them that an operation of some kind was absolutely necessary. As the child seemed to be alive and quite strong, we could not

think of craniotomy; so Cæsarean section was the operation decided upon. We went immediately to making preparations for the operation. By the time we could get ready and get back to the house it was about 9 o'clock. By this time the patient was very much exhausted, pulse about 120, and very weak. We gave her chloroform as an anesthetic, put her on the table and operated as quickly as possible, making the incision sufficient to deliver the uterus through, then placing sterilized towels around it to protect the peritoneal cavity. In making the incision through the uterine wall there was quite a free hemorrhage for a few seconds; but as soon as we got through the wall and could make pressure on the edges of the womb the hemorrhage was controlled. The child was delivered (cord tied rapidly), and handed to the nurse, who carried it into the next room, and reported in a few seconds that she thought the child was dead. I asked Dr. Walker to give his attention to the child at once, which he did, and was successful in resuscitating the child, which was a male, weighing about eight pounds. After removing the child and placenta, we washed out the uterine cavity thoroughly with hot sterilized water, running the water out through the vagina. We then closed the uterine incision as rapidly as possible with deep silk sutures, entering them slightly below the peritoneal surface and emerged just above the mucosa, grasping as much of the muscular tissue as possible, reversing order on the opposite side. Lembert's sutures were used in approximating peritoneal edge. After the uterine incision was finished the peritoneal cavity was examined and sponged out, but nothing had entered it. We then returned the uterus into the cavity and closed abdominal incision with silk-worm gut, applied the dressing of moist gauze, cotton and bandage, placing adhesive strips around so as to hold it steadily in place; put the patient to bed, applied artificial heat and stimulants by the rectum. The patient seemed to rally some for about six hours, but never completely. She then gradually commenced sinking and died about six o'clock the next morning. Six hours after the operation I introduced a

cather, but found no water in the bladder, and repeated it again in six hours with the same result. I left a few hours before she died. Dr. Walker, who was with her when she died, and also Dr. Black, made an examination of the parts, and said there was a rupture of the bladder. I can not account for it, unless it was done by applying the forceps.

We all very much regretted that we did not operate earlier on this patient. No doubt if the operation had been done the night before she would have had a good chance of recovering. I feel that we should always be on the alert whenever we have a case where there is any suspicion of pelvic deformity, and not wait for nature to accomplish much till we come to her rescue with proper surgical aid. By so doing many lives might be saved that are otherwise lost.

DISCUSSION.

DR. WALKER, of Paris: I would like to ask Dr. Gilcreest the measure of the pelvis, and also the measure of the child's head.

DR. GILCREEST: There was no accurate measurement made. We all were satisfied that there was deformity, from the shape of the pelvis, and the depression of the pubic arch, and the irregularity on the right side: the bones seemed to approach nearer on that side than they did on the other, although there was no accurate measurement made.

DR. WALKER: The only thing in the paper that will bear discussion is whether the doctor was justified in making Cæsarean section instead of symphysiotomy. I appreciate the paper, and extend thanks to the doctor for the report of the case. Without the measurement of the pelvis, I do not think we are justified in adopting Cæsarean section instead of symphysiotomy, because we are well aware of the brilliant results that this operation has brought us. And I must say that I hope the committee that was appointed to investigate the claim of priority will put the credit where it belongs, with Dr. Williams, of Texas. That is about the only point in the paper, and I think we could not very well discuss that unless we knew the measurement and diameter of the pelvis. But the mere fact that the pelvis was deformed, the pubic arch, as I understand, being depressed, or misplaced in some way, I hardly think the resort to Cæsarean section was well

taken. I remember just in this connection—of course I give this as no discredit to Dr. Gilcreest, because you all know him much better than you do me—I remember hearing a physician discussing abnormal labor, and in the report of a case he says he was satisfied the pelvis was deformed, because he measured the child's head afterwards and the child's head was so small the pelvis was bound to be deformed, because the child's head came through that pelvis. Now it seems to me that we can get at the measurement of the pelvis in a better way than that.

DR. STODDARD, of Pueblo, Col.: It seems to me that there is another point Dr. Walker did not discuss, and that is the question of the advisability of leaving the uterus in the case of deformed pelvis. I am not an advocate of symphysiotomy, to start with. My experience has been that it is more difficult to perform than Cæsarean section; and again, if the pelvis is deformed sufficiently to warrant a symphysiotomy, it is deformed sufficiently to warrant the removal of the uterus, so as to prevent the possibility of further pregnancy. When we do a Cæsarean section and leave the uterus in, we run the risk, almost certainty, of having to do the operation at a future time; and I think when we find a patient in such a condition it is certainly not advisable, to say the least, to leave a possible chance of a further recurrence of pregnancy, and risking the patient's life another time.

DR. KNOX, of Hillsboro: There is one little point to which I wish to call attention, in regard to which I did not hear anything said, and which seems to be in favor of the operation which the doctor performed, and that is the previous trouble in the acetabulum. It seems there was some trouble there growing out of the previous condition of anchylosis described, and there would not be sufficient elasticity of the part to admit the passage of the child's head, to perform a successful symphysiotomy. I think the doctor did well in performing Cæsarean section in preference to the other operation.

SECTION ON SURGERY.

SOME CASES OF OSTEOMYELITIS.

W. R. BLAILOCK, M. D.,

M'GREGOR.

Osteomyelitis is of microbic origin, and the so-called spontaneous variety occurs almost exclusively in young persons whose osseous development is not completed. Traumatic and tubercular osteomyelitis may occur while the bones are developing, or after their full development.

Two of the cases that I shall report may be classed with the so-called spontaneous variety, while the other may be considered of tubercular origin.

CASE 1.—Male, aged five years, previous health good, family history gave no evidence of syphilis nor tuberculosis.

July the first, jumped from a wagon and stuck a thorn in left heel, which was pulled out. Some inflammation ensued, and a few drops of pus formed, which escaped through a small opening in track of thorn.

July 12.—Suffering from intense pain in left leg, any movement of which caused him to cry as though a knife were being thrust into the leg. The heel was apparently well, and a small incision did not reveal the presence of pus. Temperature 103° F., tongue coated and parched, bowels constipated.

July 13 and 14.—Pain and evolution of temperature continued.

July 15.—Right tibia painful and worse at night.

July 20.—Both legs intensely painful and swollen.

July 27.—A large fluctuating abscess on anterior middle part of left leg and opposite line of lower third with middle of right leg. The pain has greatly abated, the pus was sanious and considerable in quantity. All pain subsided after its evacuation, but it continued to escape in small quantities. In the course of three months a small piece of necrosed bone passed from right leg, after which all discharge ceased in that leg.

December, 1896.—A sequestrum three inches long, occupying the anterior portion of right tibia was removed. A fairly strong involucrum had formed, but there was some arching forward of the tibia, owing to neglecting to support the leg by a suitable splint while the involucrum was forming.

All discharge of pus ceased in the course of a month, and that leg has given no further trouble.

July, 1895.—The right tibia became painful in its upper part, with a very tender area near the junction of the epiphysis with the diaphysis, but no suppuration followed. The boy is now in good health.

CASE 2.—Male, aged 18, previous health good, weight 180 pounds. Tuberculosis had caused death of an uncle and two aunts on father's side.

July, 1893.—Was working with a threshing machine and sleeping on the ground at night. Had a chill, followed by fever and pain in right lung, which the attending physician pronounced pneumonia.

Very soon pain in or near left knee set up, severe at first, but soon subsided to a great extent. Was treated for rheumatism. I saw him two months after commencement of illness. Bowels had not moved for three or four days, and complained of pain in the back, which was greatly intensified by moving the body. Pressure over fifth lumbar vertebra showed marked tenderness. Left knee and thigh swollen and somewhat tender; knee joint could not be straightened nearer than about 45 degrees. A straw-colored fluid was aspirated from the joint, but no pus found. On introducing the needle above the joint the bone was

found uncovered and rough for several inches, especially on the inner side of the lower end of femur.

September 3.—Made an incision about four inches in length on inner side of thigh; found a quantity of thick, yellow fluid, which had burrowed beneath the periosteum, separating it from the bone on the inner and lower side for a distance of five or six inches.

On the under side of the bone near the lower epiphyseal line was an opening into the bone, near which, lying loose in the fluid, was a lump of caseous material as large as the end of the thumb. An opening was made on the inner side of the bone, and the entire medullary portion found diseased and broken down for a distance of nearly five inches. The diseased bone was scraped and chiseled away, the cavity flushed with bichloride solution, 1 to 1000, dried or wiped out with gauze, dusted with iodoform and packed with decalcified bone chips. The bone chips were taken from an alcoholic solution of bichloride of mercury 1 to 500, carefully dried between strips of gauze, washed in alcohol, and again dried. An opening had previously been made on the outer part of the thigh connecting with the bone on the under side through which a drain tube was passed.

The incision was carefully sutured with cat gut, approximating the bone and surrounding soft parts as nearly as possible. An anterior splint was placed over the femur, an antiseptic dressing applied and the leg slightly elevated. Pain and fever subsided, appetite improved, bowels acting well. Four days after the operation that part of the dressing into which drainage tube discharged was removed and found saturated with a yellow fluid, but no pus. Twelfth day entire dressing was removed, and incision found healed throughout. The drain tube continued to discharge a small amount of the same yellow fluid, but it was not the least bit offensive. Peroxide of hydrogen was thrown in through the drainage tube, only one dram of which could be put in by ordinary force at a time, after which iodoform emulsion was thrown in and the leg redressed as before.

After a few treatments of this kind the tube was removed, but a slight discharge continued.

The knee joint remained swollen, flexed and tender. It was again aspirated, but only a straw-colored fluid was found. Galvanism was now tried, a copper electrode being placed to the sole of the foot to which the negative pole was connected, the knee completely surrounded by copper gauze, covered with cotton cloth, to which the positive pole was connected. The current was started with eight cells and increased to eighteen, where it was maintained for fifteen minutes. This treatment was continued three times a week for four or five weeks, when it was found that the swelling was greatly reduced, and the leg could be nearly straightened without causing pain.

October 6, 1894.—A small sequestrum about two inches long, occupying the under outer part of the femur opposite where the bone chips were put in, but not connecting with that part of the bone, was removed. After this all discharge ceased. The young man is now (April, 1896,) in good general health, and has perfect use of the limb.

CASE 3.—Male, aged 36. Could elicit no history of syphilis, tuberculosis nor cancer. When eleven years old, while binding wheat, was seized with a violent pain in the left hip; took a bath by jumping into a creek and felt better. Pain returned at night; continued several days, accompanied by a high fever. Some time afterward an abscess formed on outer aspect of the thigh, bursted spontaneously; since which time he has had a constant discharge of pus.

March 9, 1896.—Found him sallow and emaciated, knee ankylosed. A line of cicatrices extended along the outer side of the thigh from about three inches above the knee to a few inches below the level of the smaller trochanter.

Near the middle of this line of cicatricial tissue was a fistulous opening discharging a most offensive sanious pus. When he lay on his back the pus flowed more freely than while standing. For the past few months much blood had been lost through this opening.

An effort was made to cleanse the leg, a constrictor placed high up around the thigh, and an incision carried down to the bone through the cicatricial tissue. On a level two inches or more above the fistulous opening a cloaca was found. Below this, a distance of three or four inches, the bone was covered by periosteum, then for a distance of three or four inches the entire shaft of the bone was bare and of a dark color.

An involucrum had formed above and the dead bone was firmly wedged above and below, the only escape for the pus being the cloaca previously described, situated at the summit of the dead bone.

When an opening was made into the cavity of the dead bone a most horrible ordor was emitted.

The sequestrum was removed by breaking down with a chisel and mallet, the cavity scraped and chiseled out as thoroughly as practicable, which was none too soon as osteosclerosis had taken place all around; the upper part cauterized with a Paquelin cautery point to stop bleeding, which was disposed to be troublesome, the cavity washed out with bichloride solution, 1 to 1000, and packed with iodoform gauze.

March 13th, bad odor emitted from the dressing, which was saturated with pus. Had been eating and sleeping well since operation.

When the gauze was removed from the cavity in the bone, a most alarming hemorrhage ensued. Placed a constrictor around the thigh and compressed the femoral artery, but the bleeding continued; a strip of gauze was now packed into the upper part of the bone cavity and bleeding ceased. I realized at this juncture that an amputation in the first instance would have given less trouble and the patient a better chance for his life.

March 15th, pulse ninety, temperature normal; had taken concentrated food and plenty of whisky for past forty hours; wound very offensive. Did not attempt to remove dressing, which had been kept saturated with corrosive sublimate solution since the alarming hemorrhage two days before, but sat-

urated it with Platt's chlorides, and covered the whole with four thicknesses of cloth also saturated with chlorides.

The thigh was now amputated as high up as possible without making a hip-joint amputation. Perhaps not more than two ounces of blood was lost from the proximal end, which was fortunate as he had no more to spare.

April 5th, flaps nearly entirely healed, discharging about two or three drams of pus in twenty-four hours, appetite is good, is sitting up part of the day with every prospect of recovery.

April 16, is walking on crutches and improving rapidly.

Case 1 is interesting as an instance of multiple osteomyelitis, in which the two tibia alone were involved. The pus that formed around the track of the thorn in the heel was doubtless the origin of the bone lesions. The case has other features of interest. It shows what may be looked for if the expectant plan of treatment is followed. Purgatives, opiates and tonics were given, but if the bone had been opened early and the diseased area scraped away and properly disinfected, the result might have been quite different. Eight or ten years ago, however, surgery of the bones was not so well, nor so generally understood as it is now. The slight deformity of the leg due to arching forward of the tibia might have been prevented had a suitable splint been worn during the period when the involucrum was forming, but as I did not see him during this time cannot censure myself for it.

Case 2 is of especial interest. It resembled rheumatism so closely that it was treated for a period of two months for that disease. The family history, short duration of severe pain, absence of pus and presence of evidences of caseation point to tubercular osteomyelitis.

Other points of interest are:

(1) The success attending the use of decalcified bone chips.

(2) The adhesion of paraperiosteal tissue over such an extensive area of bone that had been separated from the periosteum.

(3) The removal of a small sequestrum from the opposite

side from which the bone chips were introduced more than a year after the operation.

(4) The prompt benefit arising from galvanism in the manner described, the early removal of all effusion from the joint and complete restoration of the limb.

Case 3 shows what unaided nature may do. For twenty-five years this man has carried a sequestrum involving the entire shaft of the femur, and had been able to labor on a farm up to a few months ago. Osteosclerosis had prevented the absorption for a number of years of a most intensely stinking pus. This same hardened bone prevented the first operation from being as thorough as it should have been. Considerable time was consumed in removing the sequestrum and in endeavors to chisel and scrape the hard bone down to an even surface; so much indeed that it was unsafe to prolong the operation at that time.

DISCUSSION.

DR. J. T. HARRINGTON, of Abilene: I wish to say that the paper was very interesting, edifying, and is eloquent testimony to the doctor's skill in the use of antiseptics and asepsis. The last case, case No. 3, is very much like a case of osteo-sarcoma. I think the hemorrhage, from the breaking down of the medullary portion of the bone, indicates malignancy usually. Sometimes in operating for osteomyelitis we are troubled with hemorrhage, so much that we can do nothing but pack and wait, and then when we take the packing out we have trouble with hemorrhage, so that these cases are sometimes very difficult to manage. I wish to say that I have in several cases where my patient was almost exsanguinated from the loss of blood, resorted to the use of an intravenous normal salt solution, and with the best result. I believe I have rescued two patients from impending death by that method, as was this third case of Dr. Blailock's. It is easily, quickly done, and I think often saves life, and is a point which I think the surgeon should not lose sight of in trying to restore a patient who has suffered much hemorrhage from any cause whatever. I still believe that the doctor will be very fortunate if he does not have a return of bone trouble with his third case, and perhaps of a malignant type.

DR. A. B. GARDNER, of Bellville: I just rise to say that I think Dr. Harrington is right in regard to the third case. I have no doubt that there is sarcoma there, and it will reappear in the medullary canal. I believe that the doctor would have given his patient a great deal better chance for an ultimate recovery, by disarticulation at the hip joint. I have seen a few cases that have been operated on for similar causes, and I think the doctor perhaps saw one or two cases very similar which were operated on oy Dr. Wyeth some five or six years ago, where he amputated at the hip joint; the trouble was similar to that. In the hip joint where we have esteomyelitis involving the medullary canal, we are never safe in leaving any part of the bone, and the proper mode of operation is to either amputate above the next joint or to disarticulate.

DR. BLAILOCK: There seems to have been no discussion on the first two cases; the second one I regard as the most important case of the whole group. It is a case in which the beneficial results of bone chips, as first recommended by Nicholas Senn of Chicago, were demonstrated successfully. I claim that it was successful, notwithstanding there was a small sequestrum thrown off from the shaft of the femur some months afterwards. I think there was a portion of the compact part of the bone that had been deprived of its blood supply, and owing to the large denudation around it, it was inevitable that a portion had to be thrown off. I would just meet the objections to the procedure in case 3, in which osteo-sarcoma is diagnosed. Now, this man has a living father and mother, his people, so far as I could learn, for generations back, have not been afflicted with cancer; neither has there been any tuberculosis in the family. At the time of operation I was hopeful that I might save the whole limb, and after packing I found that I could not get all the bone away; after meeting with such a hemorrhage—which came very near killing him, and after the septic condition that existed, and the man's greatly diminished strength, although he recovered considerably within forty-eight hours—while I was prepared and had every arrangement made to operate by Wyeth's bloodless nip joint method, I cut in first to the bone below the smaller trochanter, and found after sawing through the bone that it was perfectly normal. I think, gentlemen, that the correctness of the procedure is borne out by the fact that the man now has a healed wound; is improving in flesh rapidly; has a good appetite and color; bids fair to make a perfect recovery. I heard from him about two days ago, and he was perfectly happy. He had gotten rid of the exceedingly stinking limb that he had been afflicted with for twenty-five years. Now, if that was osteo-sarcoma, I cannot understand why the tissues should go on and act like normal ones. Dr. Gardner has reference to

a case that Dr. Wyeth operated on. I saw the first and second, and I believe the third operation that he performed. In each one of those cases the medullary canal was diseased, not only up to the great trochanter, but above, and so it was impossible to get a piece of healthy bone without going into and disarticulating at the hip joint. I think if I had disarticulated at the hip joint the man, in his weakened condition, would not have had such a good chance for life as he did have. and so far it has been very gratifying to me that he is improving. I do not think he had osteo-sarcoma.

REPORT OF A CASE OF CANCER OF THE KIDNEY.

W. J. LANE, M. D.,

DALLAS.

At a time when the chirurgical art, aided by her hand-maidens, asepsis and antisepsis, is making such rapid strides, and the manipulator of the scalpel, by graceful curves, delicate dissections and accurate coaptations of edges of incisions, is accomplishing such brilliant results, thereby startling the world, I appreciate the fact that the simple relation of a case without operation is apt to be considered tame, and may fall flat for lack of interest. And my apology for bringing this case before you is the request of the patient, in the first place, that an exploratory incision be made if it would reveal the exact nature of his trouble, and thereby aid in the proper treatment of his case, which was denied him for reasons that will follow; then, that a post-mortem examination be held and the result given to medical science if it would be of any benefit to it. Also the rarity of an autopsy in private practice.

I shall adhere strictly to title of paper, referring you to the authorities for a description of the etiology, which is as obscure as the general etiology of cancer and of the morbid anatomy, except as it pertains to the case.

Case: D. B. D., residence, Marshall, Tex.—Born in Florence, Ala., April 17th, 1835; aged 60 years, 11 months, 3 days. In December, 1893, when I first saw him, he called my attention to a prominence on the right side, and gave the following account of its first appearance: In August was riding in a buggy, when the horse becoming unmanageable, he was thrown violently against the dash-board, striking his right side and falling to the ground. He said he thought he was internally injured, and that this swelling was the result of the accident, but I am in-

clined to believe that it existed there before, for reasons that will come out in the relation of the case.

His previous history was as follows: About twenty years before, while traveling on the road, he was seized with what was supposed to have been renal colic, as it required several hypodermic injections of morphine to obtain relief. Several years after this he began to have hæmaturia at intervals of weeks and months. I attended him during several of these attacks, the hemorrhage sometimes being profuse and accompanied by clots, which necessitated irrigating the blader to remove them and relieve the severe pain which they gave rise to. The hemorrhages were constant up to within a short time before death. February, 1886, he was attacked with a carbuncle on the back of his neck which was so extensive that the exhaustion caused by sepsis nearly proved fatal. On examination by inspection I found the abdominal region was not symmetrical on the two sides, the right being more prominent. By palpation a swelling could be outlined occupying the right hypochondriac region and extending into the lumbar. Percussion would elicit a dull note over region of the liver, and a somewhat tympanic one lower down, due to the interposition of the bowel. The symptoms were not marked; all the functions of the body being performed fairly well, and this swelling didn't give him much inconvenience, but he complained of loss of strength and flesh, which was accounted for by the loss of blood that was supposed to come from the kidney. Being a brother-in-law, I had occasion to examine him and obtain information of the progress of the case during my visits, twice a year, to Marshall. In December, 1895, I found that he had progressively emaciated, and the tumor had steadily enlarged, reaching beyond the median line to the left, and downward into the iliac region, being more prominent in the lumbar, where the percussion note was tympanitic, due to the intervening bowel, but dull above and below. There was some tenderness detected over every portion of tumor, but very intense pain on pressure over epigastrium, and as he had had several attacks of vomiting, I was under the impression

that the nature of the disease was cancer of the liver, involving stomach, and so expressed myself about February of 1895. From the frequent hæmaturia it was believed that the right kidney was involved also, and was enlarged and pressed against the liver. The vomit contained no blood nor pus, microscopically examined, only some mucus having a greenish cast. The urine was chemically and microscopically examined from time to time, but contained no foreign elements but red-blood cells, which accounted for the small amount of albumen present. There was constant attenuation of the body and profound exsanguination, notwithstanding a good appetite, except during vomiting spells, one lasting about three weeks, when he could retain no amount or character of food, and that all the other functions of the body were performed fairly well. He had paroxysms of most agonizing pain, that would set his whole frame in a violent tremor, requiring hypodermic injections of morphia to quiet him. The pains would shoot down the thigh, due to pressure of tumor upon the nerves supplying this region: then they would radiate to left scapular region, a feature I am not prepared to explain. He would also complain of a burning, like fire, in the tumor.

DIFFERENTIAL DIAGNOSIS.—As the nature of the tumor was by no means clear, it was aspirated by the attending physicians several times, about a drachm of dark fluid being withdrawn, a microscopical examination giving a negative result. This procedure eliminated abscess and hydatids, which would have given pus or a saline fluid containing portions of the ecchinococci. From perinephritic abscess it was distinguished by absence of febrile symptoms, by its slow growth and absence of fluctuation. An absence of an area of tympanitic percussion between the liver and tumor, gave rise to the confusion in definitely determining between liver and kidney.

AUTOPSY, MARCH 20TH, SIX HOURS AFTER DEATH.—In the presence of a number of physicians, Drs. Eads and Rosborough being the attendants, the latter opened the body by the usual method of post-mortem operations in this locality, it being nec-

essary to supplement the median incision by a transverse one beginning at the umbilicus and extending to the right before the tumor could be exposed. The abdominal cavity was found to contain about two pints of straw-colored fluid, but it was never in sufficient quantity to distend the cavity in the least. There was some œdematous swelling of lower extremities as high as the knees in the last few weeks. The tumor, which was seen at a glance to be the right kidney pressing against the abdominal wall, was found occupying the right hypochondriac, lumbar and inguinal regions, the superior extremity firmly adherent to diaphragm and inferior surface of liver, making so much pressure upon this organ that slight impressions of the ribs were observed upon antero-superior surface. The ascending colon was seen to be agglutinated to the outer border and anterior surface of kidney which, to accommodate itself to its surroundings, had revolved somewhat forward upon its axis. The bowel had been so displaced that it extended almost diagonally across the abdominal cavity to the curve where the descending portion begins, the transverse portion being absent.

It was so firmly bound to these organs that the separation was not completed without lacerating the liver tissue and rupturing the bowel. Nodules were discovered in the mesentery, binding it to the spinal column. The left kidney was normal in size, but the capsule was adherent in one place, where some of the cortical substance was removed. In some places the surface was slightly mottled, otherwise the organ was normal. We would have expected to find compensatory hypertrophy of the left kidney, as it was evident it had done the work of two. All the other organs were in a mormal condition.

PHYSICAL CHARACTER OF TUMOR.—To be so enlarged it had retained somewhat the peculiar bean shape of the kidney.

DIMENSIONS.—It was nine inches in length and fifteen inches in circumference (this measurement is not exact, as it was made after the contents had been removed and the capsule stuffed). The weight was seven pounds, ascertained immediately after removal from the body.

A longitudinal incision was made through the capsule, which was very much thickened, possibly a ninth of an inch in places, exposing the interior and revealing its contents as a whitish, partly fluid and partly semi-solid, friable substance, like brain matter.

There was no appearance of the normal renal structure, it was so thoroughly disintegrated and metamorphosed as a result of fatty degeneration.

The main point of interest in this case was the duration of the disease, having existed as a tumor to my knowledge two years and three months, and he said it was five months before when the accident occurred, from which time he dated its appearance. Now, this makes two years and eight months, and we don't know how much longer it may have existed. Loomis says the disease often remains latent for a long time; that a year in children and two in adults is its average duration. And while this author gives the average weight of a cancerous kidney as over eight pounds and says it has weighed thirty-one in children, yet to the practitioner in private practice a kidney of seven pounds presents itself as a pathological curiosity. Although it was my fortune to serve as interne at the Charity Hospital of New Orleans two years, I don't remember to have witnessed a post-mortem showing a kidney of anything like the weight of this from any disease. There were none present at the autopsy who had ever seen such a specimen.

DIAGNOSIS AND TREATMENT.—Believing that the liver was also diseased (found to be involved only by firm adhesion) surgical interference was not advised, the opinion being that it would prove fatal. Let us see if we were supported in this. No less an authority than Lewis A. Stimson, of New York, writing on the "Surgical Diseases of the Kidney," in Morrow's System of Genito-Urinary Diseases, etc., in his chapter on malignant tumors of kidneys, says: "The diagnosis as to both the seat and the nature of the tumor, is full of difficulty, and the records show many mistakes made by skillful and experienced surgeons. The urgency of an early diagnosis is great,

for it is only in the early stages of the disease that surgery can hold out any hope of a cure; for that reason an exploratory laparotomy or lumbar incision seems fully justifiable whenever the symptoms indicate or reasonably suggest *a beginning cancer.*

TREATMENT.—The only operation that can be considered, according to our present knowledge, is removal of the tumor and kidney—nephrectomy. And the record, which comprises more than one hundred cases, is not encouraging. Remembering the promptness with which generalization takes place, it may fairly be claimed that when the tumor is large enough to be easily recognizable through the abdominal wall, its removal would not be removal of all the disease, and that, merely as a palliative measure, without hope of a radical cure, nephrectomy is too dangerous to be undertaken. This practically excludes it in all cases occurring in children, for in them, as a rule, attention is first called to the disease by the recognition of an abdominal tumor (when first seen the tumor was well developed in this case). In cases in which pain and hæmaturia have led to a diagnosis early in the course of the disease, nephrectomy is a justifiable, although hazardous procedure. With a constant improving technique, and with earlier accurate diagnosis, it may be hoped that a larger measure of success will attend operative interference in the future."

Such words, coming from the pen of so high an authority, should make us pause and reflect in our eagerness to wield the scalpel. Do not understand me as decrying surgery; it has a place that cannot be supplanted by any other art, but it is the indiscriminate use of the knife that should be advised against. No one who saw this case was willing to take the responsibility of operation, it seemed so hopeless.

In conclusion, I will repeat, that at the risk of its proving uninteresting, I have presented this case to you, but if I have gained your attention during its perusal, I shall feel repaid for my efforts, however feeble they may have been.

P. S.—HISTOLOGICAL CHARACTERS.—For the sake of completeness and to know the exact variety of cancer, a rough diag-

nosis having been made, only an account of the resemblance to brain matter, a specimen was sent away about three weeks ago for a miscroscopical examination, but I have failed to get a report.

Dr. Smart, of Dallas, who has lately had excellent opportunities at one of the medical centers to equip himself in this line of work, kindly consented to prepare a mounting, which may be seen under the microscope. The appearance is that of sprindle and round cells, warranting the belief that it is mixed sarcoma.

ASEPSIS IN SURGERY.

Z. T. BUNDY, M. D.,

MILFORD.

Owing to the lateness of the hour at which the request came, that I contribute a paper to this section, I feel justified in offering *lack of time* as a palliating plea for brevity, as well as all other defects which may be apparent in my paper; but if I shall have said one word calculated to impress some "Doubting Thomas" with the necessity of a close observance of all that is meant by the subject of this paper, I shall feel proud of my endeavor.

In all ages, and among all civilized peoples, there has prevailed an instinctive idea of cleanliness in its relation to health. It was promulgated by Moses, modernized by John Wesley in the proverb, "Cleanliness is akin to Godliness," and reduced to a science some thirty years ago by the immortal Lister, and comes to us now as an established and well-defined truth, clothed in the habiliments of success; to be dealt with and accepted as such by us, or rejected, to our probable grief, as we may severally elect.

The bacteriological skeptic has forfeited, by reason of his faith, a place in the field of surgery. He who would, with the lights before him, turn a deaf ear to the statistical achievements of aseptic surgery, and blindly ignore its claims as one of the potent factors in the evolution of surgery, is a "back number," and humanity demands, in the name of justice, that he be relegated to the shades of pills and powders, where the siren voice of empiricism in requiems for his departed patients may lullaby his unscientific soul.

Yes, it must be true that he who aspires to cut, should fortify that aspiration by studying with much interest and concern the

picture of micro-organism in the pathology of surgical diseases, and the methods of prevention, so beautifully portrayed by the untiring research and experimentations of Lister and others who have taken interest in that subject.

Dr. Roswell Park, in an article written for the Reference Hand-book of the Medical Sciences some ten years ago, says: "We ought to distinguish between aseptic and antiseptic surgery. The former includes a series of measures calculated to absolutely exclude every living germ from lodgment on the wound surface or in the dressing. To this end there is, perhaps, but one known method, and that, the strictest form of Listerism. It is, of course, impossible to say exactly to what extent any of his details could be omitted, or whether any other could be substituted for them, but those who desire to make the course of a wound perfectly aseptic, had best adhere strictly to those directions laid down by their author. It would take a long course of experimenting which might be trifling with human life, before we could deviate from his plan. Besides, no one could go over the question more carefully than he has done. Let us, remembering that their strict and conscientious observance constitutes our positively aseptic surgery, very briefly run over each detail of the Listerian system, promising that we shall find, as we go over them, ample and admirable reasons for each. After strict Listerism is rationally appreciated, we shall be better prepared to study its later modifications."

Now, all this was excellent advice ten years ago, and in most part harmonizes with the present ideas of asepsis, yet one can but be struck with wonder and admiration when they behold how beautifully perfect the system seems to be as it is practiced by the leading hospitals at present. The spray has been universally omitted from the system with the idea that the atmosphere is not so pregnant with bacteria as was supposed, and those lurking in house corners and crevices are harmless until disturbed by some element or body that puts them floating. Under the salubriety of asepsis, together with anesthesia and easy control of hemorrhage, post-operation complications have almost dis-

appeared. The scope of operative surgery has been widened until fear, which formerly made tremulous the hand of the operator, has been displaced by an unlimited audacity in the execution of the most difficult fetes. The surgeon is expected now to do successfully any operation, from a trephine to the removal of an ingrown toe-nail; no chances are to be taken, everything must be known to be sterile before it comes in contact with operator, patient, or assistant. The greater stress being laid on the thorough cleansing of the operator's hands, especially his finger nails, they being, supposed to be, the most prolific source of infection. We cannot, on this occasion, go into details; it would lengthen this paper beyond proper bounds, besides the reflection upon the brethren by so doing would place me in the light of an egregious presumer. Sufficient is it to say that thorough asepsis is absolutely essential to success; and in the meantime we should not forget, that with all our boasted achievements and progress, patients still die, and sometimes from the operation, and that sober conscientious consideration should go before every decision as to operations.

THE MODERN TREATMENT OF SPRAINED ANKLE.

J. E. GILCREEST, M. D.

GAINESVILLE.

My excuse for offering a paper on this subject is because I have found so few physicians who have adopted this method of treatment in sprained ankles.

The treatment of which I am going to speak is by basket strapping, with adhesive plaster. This originated with Mr. Edward Cottrell, of London, as far as I know. Dr. V. P. Gibney, of New York, commenced using this treatment in 1888. One year later I consulted him in a case of this kind, and he advised the basket strapping. The patient, however, rebelled, and would not allow me to try it. I then determined to test its value on some other case when opportunity presented. Speaking of this class of injuries, Dr. Gibney said: "I had learned to look upon a sprain as a kind of mystery involving a laceration of fibrous structures about the joint, a rupture of the ligament or ligaments, sometimes a teno-synovitis, sometimes contusion of the cartilege, and was inclined to look with a certain degree of admiration or pity on the man who was able to say that this ligament or that ligament was torn or detached from the bone; but was never able to say which was which, and I treated my cases as most men do to-day, by fomentation for a little while, then plaster of paris bandage or silicate of sodium, rest on axillary crutches, subsequent rubbing and massage, etc., etc. I confess I was never enamored of this treatment, and I had a grave apprehension always when I took charge of a case, lest I should get a stiffish joint following treatment, an irritable joint—one very much like the joints left after tuberculous disease in children, where suppuration has not been a part of the disease. The external features of a sprain,

the signs, were always very well pronounced. One could see the puffiness in the neighborhood of the malleolus or over the dorsum of the foot, the localized swelling with extra heat, and sometimes ecchymosis."

The method adopted by Dr. Gibney, as described in Mr. Cottrell's little book, is as follows: "Cut strips of rubber adhesive plaster about one-half inch in width and long enough to completely encircle the foot. Then, with the foot raised, begin strapping the ankle and lower third of the leg, as I would an ulcer. The first strip came over the outer side of the foot down near the base of the little toe. It was put obliquely so that the next strip should cross this, one end beginning near the heel and terminating under the ball of the great toe. The third strip overlapped the first about one-half and was snugly applied, while the fourth overlapped the second in same direction, and so on until I had completely covered the foot, ankle and lower third of leg."

In the cases I have treated this way, I have generally tried to hold the foot elevated, rubbing it gently to reduce the swelling as as much as possible for half an hour or so before applying the strips. I have treated quite a number of cases in this manner, and must say that it is the most satisfactory way that I have ever treated sprained ankles. I have notes of six cases in particular in which I adopted this method of treatment.

Case 1.—D. L., a colored porter at the depot, sprained his ankle badly by a bale of cotton turning over on it. When I saw him it was swollen badly and quite painful. I had it elevated, after bathing thoroughly and gentle rubbing kept up for about half an hour, while I was cutting my plaster ready to apply. I then applied it as described, and also a cheese-cloth bandage over the plaster to hold it more snugly. I told him to put on his sock and shoe and lace it up around his ankle, which he did, and continued at his work. He wore the plaster for about one week, considered his ankle was well, removed it and had no further trouble.

Case 2.—Mr. G., a lawyer by profession, jumped out of his

buggy one afternoon in the country, lighting on a stone which turned under his foot, causing a very painful sprain. I saw him in about two hours afterwards; his ankle was swollen quite badly and very painful. I followed the same course of treatment, applying the adhesive strips and bandage. He staid in bed until the next morning, got up and put on his shoe and walked about the house some that day; and the next day went to his office, and continued from that time going on and attending to his business. His ankle, however, was somewhat sore in a week's time, and some of the strips had become loose, when I removed them and applied another dressing. He wore that for a week longer, then removed it and had no further trouble.

Case 3.—Mrs. D., a lady about 35 years old, rather fleshy and heavy, applied to me with a sprained ankle, which had been done about a week. She had not been able to walk without suffering a great deal of pain, or going on crutches. I applied the basket strappings as in the other cases. Her relief, however, was not so prompt as in the two former cases, but said it felt more comfortable immediately after the dressing was applied; she could wear her shoe and go with much less pain than before. It continued improving slowly and at the end of two weeks she was able to walk and have the dressing removed.

Case 4.—Miss C., a young lady about 18 years old, clerking in a dry goods store, stepped on a stone one morning while coming to the store, and sprained her right ankle. She called in my office soon afterwards. The ankle was swollen and painful; was hardly able to bear her foot on the floor. I applied the basket dressing, after which she put her shoe on and continued at work in the store. It gave her a little pain for a few days, but she continued going and wearing the dressing. I rebandaged the ankle in about a week. She wore the second bandage a week longer, when the ankle was well.

Case 5.—Miss H., a young lady attending school, jumped off the steps one evening; her foot turned, causing a painful sprain of the left ankle. I saw her two hours afterwards; she had been keeping it in hot water for some time before I saw it. I had

it elevated for half an hour, having some one to rub it during that time, and then applied adhesive strips and bandage, as in the first case. She remained in bed that night, got up and put on her shoe the next morning. While she felt considerable soreness of the ankle, she could walk without much pain, and continued to do so. All pain and soreness was gone in about three days. She wore the dressing about a week, removed it and had no further trouble.

Case 6.—Mr. H., an attorney, stepped on a stone in his yard at noon and sprained his left ankle. It hurt him for a little while right badly, but he afterwards walked up to his office with the aid of a stick. It was hurting him so badly by night that he was hardly able to get home, and after walking home it became exceedingly painful. I saw it about eight hours after the injury, applied the adhesive plaster and bandages, told him to get a laced shoe to put on the next morning, and try to walk around the house, which he did, and the next day he went to his office and continued using his ankle every day. He wore the dressing about ten days, then removed it, his ankle being perfectly well. There were no after effects.

I am highly pleased with the results I have had with this method of treating sprained ankles. With the old method of putting them up in plaster paris sometimes for weeks, we often find, upon taking them out, the joints sore and stiff, unable to move it. The modern method has certainly saved much valuable time for my patients. The old method would have perhaps made larger bills for me, but I feel that we are more than recompensed by gratefulness from our patients when we can save them time and suffering.

Dr. Gibney, in commenting on this treatment, says: "I have treated sprained ankles in this way at my clinic and in the out-patient department of the hospital. Both at clinic and at hospital we kept pretty full notes of cases, but they have not been tabulated. Suffice it to say that members of my staff and students have been very much impressed with the facility with which patients get about when thus treated, and medical friends

who have asked me about sprains, and have adopted the plan here advocated, have reported to me almost uniformly the brilliant results they have obtained. I do not call to mind any adverse opinion."

CASES OF CHLOROFORM ANÆSTHESIA.

HENRY P. COOKE, M. D.,

GALVESTON.

In very few instances has experimental research been undertaken in a better cause, or the results obtained therefrom more abundantly verified than in the investigation to ascertain the true action of chloroform instituted by the Nizam of Hyderabad, and carried out by a commission of his appointment. So at varience were some of the findings of this commission with accepted views derived from clinical observation, that its work was repeated by several similar and independently formed bodies before its revelations were received as conclusive; and even yet investigators are found again and again demonstrating the accuracy of the observations made.

Among more recent inquiries of this kind were those conducted by Drs. Randall and Cerna in the laboratories of the University of Texas, and so fully described and so fairly analyzed in a paper read before the State Medical Association in 1894. This paper is more particulary interesting to the practitioner of medicine in that while it corroborates with sufficient closeness the outcome of the work of the several official commissions, it tempers the conclusions drawn therefrom, with appropriate warning as to the danger of depending too securely upon experiments upon animals as a guide in treating human beings affected by disease; and emphasizes the necessity for giving weight to all evidences of disturbance caused by the anæsthetic, and not relying solely upon one function to give the signal of impending danger.

As intimated above, the observation of clinicians upon the effect of chloroform were opposed in some particulars to the findings of the Hyderabad commission, more especially as to priority

of the respiratory or cardiac functions in indicating a dangerous degree of anæsthesia; but their confident assertions were met by the statement that their observations were open to question, while the commission's experiments were not only recorded by scientifically constructed instruments possessing an accuracy of register unobtainable by the eye and touch, but they were confirmed almost invariably by similarly conducted inquisitions.

It has always seemed to me that the opinions of the practical worker should not be so lightly brushed aside; because no statistics of instrumental observation upon human beings under the circumstances ordinarily attending the use of the drug are obtainable; because the convictions of many hundreds of anæsthetizers coincide almost as completely as those of the commission—with which they so sharply conflict,—and lastly because we must still be guided by the eye, the ear and the touch, and cannot introduce into practical use the instruments of precision from the laboratory.

Again, while admitting the undeniable value of this work, I am not prepared to unquestioningly accept the conclusions drawn by the experimenters, and believe a great deal of harm would come from the adoption of such radical advice as that of Larnie to concentrate the attention upon the respiration and disregard everything else. Much more rational is the admission by the commission that depressed circulation may be a danger in itself, and the advice of Drs. Randall and Cerna to put this knowledge to actual use, and watch the pulse also, even while depending upon the breathing to warn of danger.

That this suggestion is of value, and that daily experience yields results differing from the conclusions of the Hyderabad commission, is shown by the following records of four cases coming under my own eye, and forming a part of a number of like cases seen during the last fifteen years. They are selected because the phenomena noted were witnessed by physicians with whom I had frequently discussed their possibility, and who are

always fully interested in the proper progress of the anæsthesia in cases under their care.

I. Mrs. ——: White, married, aet. —. Chloroform administered to permit the removal of dermoid tumor of orbital region, by Dr. Ed. Randall, of this city. Anæsthesia had advanced through the various stages to the surgical degree, and the operation was well under way when the pulse, which had evinced no unusual alteration, became slower, apparently more forcible, and began intermitting irregularly and with increasing frequency. The chloroform was suspended, and as the intermissions became alarmingly prolonged the patient was drawn to the bedside, and preparations made for restoring consciousness. By this time the pulse had become practically suspended at the wrist, the face was livid and the hands cold and clammy. The respiration continued rhythmical, of uninterruped frequency, and with no disturbance of the respiratory cycle throughout. No impairment of depth or fullness was noticed, though of course accurate determination of these facts was impossible.

The administration of amyl nitrate, and the lowered position of the head soon restored the pulse to a satisfactory condition; the other untoward symptoms subsided, and the operation was completed.

II. Miss ——: Unmarried, white, aet. —. This patient was under the care of Dr. J. F. Y. Paine, and was subjected to an abdominal section for treatment of uterine myomata. She had a distinct mitral systolic cardiac murmur, without symptoms of valvular insufficiency; and chloroform was administered after duly weighing the necessity for surgical interference and the element of danger in the state of the heart, and after consultation with the patient's brother, who was a physician. The anæsthetic was taken kindly, the patient placed in Trendelenberg's position, and the preliminary incision made. As the abdominal cavity was entered, the pulse began to steadily lessen in frequency without intermitting or losing force; and, although the chloroform was withdrawn, it reached twenty beats per minute before the count was interrupted by the efforts to avert

an apparently impending casualty. The breathing continued deep, regular, and apparently effective, and the countenance remained unchanged except for slight paleness. The patient was brought to the horrizontal position, the diaphragm relieved of the pressure of the viscera, and the pulse soon regained its wonted frequency. The chloroform was resumed and the operation proceeded with no further trouble; nor during a quick convalescence was there any evidence of heart weakness. The attention of the operator and a number of medical men was drawn to the condition of the pulse and breathing, and my own observation confirmed. I am of the belief that this pulse went lower than twenty beats to the minute, for no actual count was made after this rate was reached.

III. Mrs. K. White, married, aet. —. Chloroform was given at the request of Dr. Geo. H. Lee, to enable him to dilate the cervix and curette uterine interior. An anæmic, thin, delicate woman, with history of well defined neurosis. A basal, systolic, blowing murmur was detected and believed to be hæmic in origin. The pulse was rapid, small, weak and compressible, and these characteristics became more pronounced as anæsthesia proceeded. The preliminary manipulations had scarcely been begun, and there was some evidences of muscular reflexes, when the pulse suddenly became feebler, smaller and more rapid, and finally dropped at the wrist. While resorting to suitable means of resuscitation, an attempt was made to hear the heart-beat, and it was quite unsuccessful with the ear to the chest wall. The woman was blanched, face shrunken, skin moist and cold, and eyeballs upturned, and for a full two minutes no improvement could be noticed. And yet, all the while the respiration was steadily and regularly maintained, though manifestly shallow and insufficient. Gradually the pulse returned, the face regained its color, and the patient resumed a more satisfactory condition. I have only once seen a patient nearer death and recover, and I declined to assume the responsibility of a further attempt at producing anæsthesia.

From the beginning, the chloroform had been given with the

closest attention to detail; and I am convinced I could exercise no greater caution and skill than I had already done with so alarming an effect.

IV. Miss M. Unmarried, white, aet. 16 years. This young lady was stoutly built, apparently healthy, and possessed of a sound heart. At the suggestion of Dr. G. H. Lee, she was chloroformed for an operation for relief of hemorrhoids, and the correction of a uterine anteflexion. The usual chain of events succeeded each other until complete anæsthesia was seemingly produced, and the operation begun, but it became necessary to suspend the attempt and continue the chloroform, as reflexes were not entirely abolished. Again all evidence pointed to insensibility of the proper degree, and the operation proceeded. During the process of dilation of the cervix the pulse quickly became feeble, small, very rapid, and ultimately almost disappeared at the wrist. The ear to the chest barely detected the heart beat, and the face became noticeably pale. The anæsthetic was stopped at the first appearance of these symptoms, the head was lowered, amyl nitrite was given, and the pulse returned rather tardily, and the operation was continued. At no time was the breathing interfered with, except that the inspirations were shallower than natural. Upon Dr. Lee preparing to assist respiration, his attention was called to the almost normal character of the movements, and artificial respiration was not resorted to.

It will be seen that in all of these cases the pulse furnished the first indication of trouble, and that, so far as discoverable, the respiration was not interfered with to a degree to cause apprehension of a bad effect from the anæsthetic. In view of the statement that as long as the breathing is undisturbed the heart may be induced to resume its function, it may be claimed that none of these patients were ever in any real danger; but the physician who disregarded such plain evidence of a dangerous condition of the circulation in any case under his care would be criminally negligent. There can be no question in my mind that continuation of the chloroform in any one of these cases

would have ended in a fatality; and this would probably have been the case had the respiration alone been depended upon to give the warning.

The explanation of these phenomena must be sought for in the action of the chloroform, as these patients had little else in common except that they were all women and were all subjects of surgical treatment.

Two were robust, one anæmic and debilitated; two were subjected to comparatively slight operations, one to a serious capital operation; two had perfectly sound hearts, one had organic heart disease, and another a functional derangement assuredly, possibly a lesion: in one the preliminaries to the operation were not completed at the time of trouble, in one the operation had proceeded to the opening of the abdominal cavity, in another it had invaded a tissue known to frequently originate reflexes—the cervix uteri.

The method of administration was the same in all; the chloroform was given drop by drop, with an abundance of air, and care was never relaxed to secure the successive stages of anæsthesia by gradual and steady advance. Every source of information was constantly under watch, color, features, eyes, respiration and pulse, and there can be no doubt about the latter being the first to show signs of danger. No accidents occurred, and asphyxia from any cause can be excluded as a factor in producing the disturbance.

If it be granted that the chloroform did give rise to these symptoms, what caused it to depart from the rule of action so often observed in the laboratory experiments?

This is precisely the question so important to the physician, and which is answered in none of the work of the commission. This work was done with presumably healthy animals as subjects, and no account is recorded as to the modifying effect of disease of the heart except in one instance, lungs and nervous system, or of primarily inflicted surgical injury. As some one of those influences are active in almost all patients subjected to an anæsthetic, it does not seem presumptive to ascribe to them

some disturbing power, and to seek here, perhaps, the secret of the discrepancy in the observations of clinicians and experimenters.

In the course of the observations of the effects of anæthesia upon these animals, efforts were made to influence the condition of the vital functions by injury to especially sensitive tissues, such as the testicles, the sphincter ani, and the matrix of the nails, and there was an entire want of success in this direction, no alterations of pulse or breathing to suggest such interference having been noted.

It is not intended to discuss the value of complete anæsthesia in lessening or abrogating some of the dangers of surgical procedures,—further than to claim that it does in a measure possess such property, especially in lessening the frequency of shock—whatever that condition may be,—but it is confidently asserted that no man ever had even a limited experience in giving choloroform in capital operations, without seeing the conclusions above mentioned positively contradicted. Again and again it has been noticed that the respiration or pulse was affected at the moment of stretching the sphincter ani, the cervix uteri, or the urethra, or of opening the peritoneal cavity, or of ligating the uterine adnexa; and this has occurred when the patient was only seemingly anæsthetized, or absolutely dead to the world, relaxed, snoring, with dilated pupils, deviated optic axes, and all reflex excitability abolished, except that needed to maintain breathing and heart beat.

Indeed, so generally are these effects produced that it becomes possible in a very considerable number of cases to say when the abdomen is opened in laparotomies,—merely by closely observing the pulse and breathing; and derangement of the former alone has more than once suggested stopping the choloform and the operation until improvement was secured. Such an effect was exhibited in Case II, though the anæsthesia was profound as far as it was possible to judge.

These investigations have lessened the loss of life from anæsthesia by emphasizing the responsibility of the user of these

drugs, by increasing our knowledge of their action, by stimulating greater attention to detail, by insisting upon the necessity of undivided attention to the work, and by leading to improvement and greater agreement in the method of administration; but it is insisted that while the accuracy of observation is not to be disputed, and the justness of the conclusions drawn therefrom is admitted in their proper sphere, this good effect will be more than overcome if these conclusions are too hastily generalized, are too mildly applied, and are made the basis of arbitrary rules for the guidance of physicians in dealing with human beings.

SECTION ON MEDICAL JURISPRUDENCE.

A PLEA FOR REFORM IN CRIMINAL JURISPRUDENCE.

F. E. DANIEL, M. D.,

AUSTIN.

In all ages, and amongst all people, civilized and savage, so far as we have any record, the instinct of race, tribe, or national preservation has led them to regard the welfare and prosperity of the people as the supreme law. No individual interests were paramount to that of the people, and personal rights were curtailed, or sacrificed to the public good. For ages this has been formulated into the familiar maxim, *Salus Populi est Suprema Lex.* And as a corollary, it has been a maxim that "the few shall suffer, or be sacrificed (if need be), for the preservation or safety of the whole;" hence, the democratic doctrine, "the majority shall rule." Amongst primitive peoples, this principle was carried to the extent of destroying feeble or decrepit offspring who would become a burden or hindrance to the state or tribe; and in the interest, too, we must assume, of race integrity. Amongst tribes, the chief decided what was best for his people, and his word was the law, to which unhesitating obedience was exacted. Ancient nations assembled their wise men, who considered all sources of danger to the people, and, according to the lights before them, conscientiously guarded against them. It remained for a twentieth-century civilization, an enlightened republican government, to ignore this "supreme law," —to give it a secondary place, and to make the protection of *property* the highest and dearest consideration: in the enactment

of laws to utterly disregard the danger of race degeneration; to permit, nay, promote and accelerate the propagation of untold evils and dangers to society and the race, through the medium of heredity. That a government should—possessing the power and means to do so—prevent an increase in the criminal element, is a proposition which it would seem requires neither argument nor defense; that it should permit—nay, deliberately propagate and encourage an increase of criminals out of all proportion to population, is monstrous; it is hard to reconcile with ordinary common sense.

In light of the rapid and alarming increase of crime and criminals in this country, presently to be demonstrated, it is evident not only that there is something radically and fundamentally wrong in our system of criminal jurisprudence, and that our penal methods are a failure of the ostensible ends sought, but that reform has become an imperative, pressing and immediate necessity. It is demanded by every consideration of safety to society, public morals, public economy, and especially duty to tax-payers, who bear the burden, not only of this, but of every other class of defectives; leaving out of consideration the higher ground of humanity to the unfortunate victims of heredity and environment (for such are criminals for the most part), and omitting all reference to the claims of posterity to protection. What that burden is, may be faintly estimated when we reflect upon the expense incidental to the detection, arrest, prosecution and punishment of the vast hordes of criminals, together with the pay of the army of constabulary, police detectives, law officers, judiciary and prison officials, and the maintenance of prisoners; and an idea of the magnitude of the danger threatened and constantly augmented, may be gathered from statistics.

According to the last United States census (1890), there were, in 1850, 6,737 prisoners in the United States, or one to every 3,442 of the population. In 1890, there were 82,320 prisoners, or one to every 757 of population. In other words, while the population of the United States has, in four decades, increased 170 per cent., the prisoners have increased 445 per cent. And

these were *prisoners*—in custody or under sentence, or awaiting trial. The number of criminals at large, evading arrest or unknown, is to be added to this,—something impossible to estimate, but a very large per cent., no doubt. At the present ratio of increase, it will be a matter of very short time when the criminal will outnumber all other elements of population.

Nothing could testify more emphatically to the inadequacy of our system to meet the requirements than these figures; nor appeal more forcibly for reform; nor could anything illustrate more fully the needs of prophylaxis against hereditary criminals.

With such facts before us, it behooves a rational people to inquire into the causes that lead to such disastrous results; to ascertain wherein lie the defects in our system of jurisprudence whereby these things are made possible; to ask what are the factors concerned in this production and great and rapid multiplication of this evil, and to seek, by every legitimate means, to arrest it.

Beyond doubt, heredity and environment are responsible for a large share of it; the laws regulating marriage are sadly deficient, and licensing the sale of liquor as a source of revenue to the State, is another evil, next in order of consequence and potency; and I believe it can be shown also that the *execution of our penal methods operates to contribute to the ever swelling hordes of criminals*, rather than to checking or diminishing it, as I will presently endeavor to show.

The system of criminal jurisprudence in this free and enlightened country appears to be founded on the sole idea of revenge, and *punishment* to be the end and object of all penal statutes. And this, too, under the claim and pretext that it is justice. *Oh, justice, how many cruel wrongs are committed in thy name?* to paraphrase Madame De Stael's apostrophe to liberty. I can not see that there is the remotest connection between punishment for crime, and justice; there is not an element of justice in it. If a man slay you, in what way are the demands of justice satisfied by his execution? What satisfaction

is it to the widow and children left destitute by your death? Or, if a man fire my house, wherein is "justice" satisfied by sending him to prison to labor? In either case it is not justice —it is revenge; and who gave the State the right to take vengeance? Nor is "justice" the aggrieved party, it is I—or your family—who should be satisfied. Justice and equity are synonymous, and contemplate *restitution*, to make even,—amends; and the ends of justice would be better served were the murderer or incendiary stripped of his possessions for my benefit, or the benefit of those robbed by his hand. And where the State metes out so-called justice by punishing a man for crime committed under the influence of liquor, it is worse than a farce to call it justice; it is the rankest kind of injustice. The State licenses the sale of liquor, deriving revenue thereby. It thus aids and abets the saloon-keeper to tempt the young, the weak, the reckless and the unwary to put that into their stomach which robs them of reason for the time being, and deprives them of the power to resist an evil impulse. Murders have been committed unconsciously by young men under the mania of their first intoxication. The State hangs or imprisons that man, robs his wife and children—deprives them of their bread winner and of bread—and overwhelms them with disgrace,—maybe brings them on the hands of the tax-payer—as inmates of the poor farm, and calls it justice! What a cruel wrong! What a burlesque on justice! The justice in this case would seem to demand restitution to the imprisoned man for the destruction of his worldly prospects, for blighting his life, and the State is accessory before the fact;—and the one so put to death —the State should make restitution to his widow and orphans. The evil of the day and generation is the saloon.

But, so long as newspapers are run to make money, and not in the aid of humanity or science, or for the dissemination of truth, or, as is often the case, are subsidized by the whisky ring, it were idle to preach against it; they will never aid science in any reform in the interest of truth, humanity or religion. No paper can be found with the honesty and independence to advocate any

measure of reform—or to disseminate any truth in the interest of humanity that conflicts with that interest.

The failure of our system to either protect society or diminish crime is in a measure due to lack of vigorous enforcement of the laws; but principally it is due to defects inherent in the laws themselves.

Under the existing system, in order that crime may be appropriately *punished*, crimes are classified, and a penalty affixed to each. One great difficulty is that criminals are not classified also. The fact that a murder, for instance, was a first offense, cuts no figure. There is a penalty for murder (death by hanging), and all murderers, old and young, male and female, good family or bad, penitent or indifferent, first offense or fortieth, must expiate it—to satisfy the ends of justice.

There is a penalty for homicide, and all homicides must conform to the penalty; there is no qualifying circumstance, except *the degree of the offense.* It is simply left to the judge to determine the crime, classify it, and looking in the book, find the companion-piece to it, the penalty—and fit the one to the other; and to the jailor or sheriff to execute the penalty. There is no discrimination. The young boy for his first offense committed, it may be, in resentment of an insult, and from an impulse beyond control, or from fear of his life, or what, unfortunately, is most frequently the case, while *under the influence of liquor;* or, if a theft, committed from want, or temptation, or what not, is thrown first in jail to await trial. There he is surrounded by a vicious, brutalizing environment, huddled, perhaps, with a lot of filthy negroes and Mexicans, all hardened criminals; in fact, made to breathe an atmosphere fatal to every instinct of self-respect, and calculated to crush out every atom of manhood. When brought to trial the fact that it was his first killing, that he was drunk at the time, and for the first time in his life, and had not even a knowledge of what he had done; that, realizing the situation he is deeply penitent, and would give worlds to undo it and make restitution,—does not in the least qualify the offense, except, perhaps, it may secure for him the minimum

term of imprisonment,—the lightest punishment *that goes with that kind of crime;* it is a definite term, and carries with it eternal disgrace, social and business ostracism and *disfranahisement.* Could anything be more unjust? Why, what would be thought of a doctor, for instance, who, having all his cases diagnosed for him, should treat every one of a class exactly alike, with the same dose? and without regard to age, sex, temperament or environment? Here is a case of fever; here is a formula for fever for all comers. Here is a case of rheumatism; here is the treatment for rheumatism for all ages, sizes, sex, color or "previous condition,"—*the book says so.* Failure would be a foregone conclusion. And so with our classification of crime, with its penalty attached, without a corresponding classification of the criminal; it is, as we have seen, a lamentable failure.

Again, by existing methods the State essays to purify the morals of society by perpetrating a shocking crime. The law says "thou shalt not kill," and forthwith gives us an object lesson in killing, and in cold blood!

The pretext for putting a man to death to protect society can only apply to the habitual or born criminal;—and I submit the ends can be accomplished by a means less revolting. Surely there could be no such pretext urged in a case—say like that of Dr. Jones, a man who had lived a life of usefulness till past 50, a respected citizen—prominent, indeed, in business and society. He had been president of this society. A circumstance occurred which so exasperated him that he felt compelled, to vindicate his honor, to take the life of the man who had injured him, as he thought. Although justified in his own mind, the law held it to be murder, and he was sentenced to death; (a subsequent trial sentenced him to twenty years in the penitentiary). Because of this one act, would this man have been held to be a danger to society which must be eliminated? And even with regard to the natural criminal, is not the question of responsibility to be considered? Take Holmes, Guiteau or Prendergast, acknowledged dangers; they could no more change their nature than a leopard could change his spots; it was born in them to

kill. Should they—morally insane, confessedly—be cruelly put to death for responding to the promptings of a natural predisposition? Why not lock them up securely, as we do man-eating wild beasts in captivity? Because they might or would kill if they had liberty, do we feel called upon to shoot them?

But heredity and environment, as potent as they are, and as prolific, are not the only factors of increase. I believe it can be demonstrated that the existing conditions and methods of our system not only fail of its ends, but operate to defeat them, and become, as I have said above, a tributary to the growth of crime and the multiplication of criminals. Take an illustration, a case in point which I have in mind, A boy of 17, small for his age, a mere child,—was wanted for suspected complicity in a burglary. He came of respectable parentage, amongst whom crime was unknown; but owing to environment he grew up to be regarded as a bad boy. The policeman was afraid of him, and attempted to take him by strategem. He employed a chum of the lad to call him to the door at night, when the policeman sprang upon him out of the darkness, and without a word, covered him with a pistol. The boy, in fear of his life, doubtless, and by instinct of self-preservation, shot and killed the policeman. For this he was sentenced to seventeen years in the penitentiary at hard labor. At this writing he has served eight years; has a record of uniform good behavior,—has given every evidence of repentance and a desire to lead a correct life; the end and object of his incarceration has been accomplished; he is "reformed"; he has been *punished*. But no,—his sentence was for a definite term of yenrs,—that's the law,—and he must serve nine years more, when, better or worse, he will be released, deprived of every right of citizenship, *sans* pride, *sans* hope, ambition or self-respect, his father's name dishonored, his widowed mother's heart broken,—the best years of his life, all of his youth spent in felon's cell, what a mockery his "liberty" will be. What will he have to live for? Is it likely that he will become a moral, upright and useful man? Or, will he, feeling that he has been unjustly punished, *vengeance* thrice-fold

taken upon him for an act which he has long since repented,—that the State is his enemy and mankind his natural foe, his hand, like Ishmael's, against every man, will he go to swell the ranks of the hardened and irreclaimable criminals? Who can ask?

This case will show the absurdity and the worse-than-uselessness of the "definite sentence" system. It makes criminals, rather than cures them.

The inadequacy of existing statutes to meet the requirements is an exceedingly grave matter, and should cause deep concern to all thinking and patriotic men. Not only that they fail to repress crime and protect society, and, as we have shown, operate to increase it, but the want of confidence on the part of the public engenders a feeling of insecurity which drives them to the commission of those acts of lawlessness for which they are so severely but unjustly censured. Self-defense and the protection of home are the strongest instincts of human nature. The people of Texas are as loyal and law-abiding as are to be found anywhere; but when they realize that the methods of dealing with the rapist and murderer, and the double crime, rape *and* murder (and that, too, most frequently, of tender young children), are not effectual to put a stop to it, even when the law is swiftly executed, but, on the contrary, that an execution, even in the horrid form of the stake, actually appears to *incite others to the crime*, it simply drives them to madness. The horrible execution of Henry Smith, at Paris, must have been known to every negro in Texas; but it did not deter another negro from committing a similar outrage a short time after at Tyler, and he met a similar fate. Nor have the several prompt hangings for rape been attended with more salutary results. *Rape is notoriously on the increase*, not only in Texas, but in other States, and lynch law is brought into execution.

In support of the assertion that an execution incites others to crime instead of having a deterrent effect upon the evil disposed (such is the theory of our system—"to strike terror in his soul" and awe him into good behavior), I refer to statistics to show

that in England, of 167 criminals condemned to death—a fact often quoted—all but three had witnessed executions. May this not be a psychological problem not yet unraveled by medical science? Our knowledge of hypnotism is yet crude and imperfect. May it not be that persons—especially the ignorant—witnessing so shocking and impressive a sight, receive unconsciously, the "suggestion" to murder? What is it that prompts a person to do, against his will and intent, an act which he knows he should not do, and for which he will be speedily put to death? Poe calls it the "Imp of the Perverse."

But the worst feature connected with the subject, and that which drives the people to desperation is, almost as many offenders escape as are caught; and when they are caught, there are so many delays, appeals, writs-of-error, feigned insanity, etc., that the feeling of insecurity is intensified to the last degree, and the people take the matter in their own hands. They do not understand the reasons why, but they recognize the fact that the laws cannot be depended upon for the suppression of crime and the protection of their families, and their acts are a spontaneous though very crude and primitive effort at a remedy.

I am inclined to believe that the fountain head and source whence flows this great evil—lynching—can be traced to the unwise policy that obtains of paying legislators day-laborers' wages. In Texas the per diem is $5; and after sixty days it is reduced to $2. It is hardly to be expected that such remuneration would command a very high order of law-making talent. Statutes enacted by men who can afford to leave home and business for $2 per day, who know nothing of the requirements of sanitary legislation, and don't want to be told, and could not fairly comprehend the subject if they were told, are apt to be defective, ambiguous and conflicting, and so afford grounds for endless "errors," pratracted trials and tedious delays. With the exception of a respectable per cent. of really able men,—lawyers, for the most part—who have political aspirations or some reason for serving, other than the pittance of pay, and who really make a pecuniary sacrifice in so doing—the legisla-

tures of many States are composed of average representative citizens, farmers, merchants, mechanics, or else, young "limbs-of-the-law"; and this class is in the majority. It is this element that defeats all attempts at reform; who ridicule the efforts of the medical profession to secure improvement in the medical-practice acts, and who mocked and insulted the noble Christian women of whom Mrs. Gardner tells us in the *Arena*,, in their efforts to amend the "age of consent" statutes. It would be difficult, I apprehend, to make this sort realize that their ignorance, bigotry, or most of all, conceit that makes them refuse to listen to any suggestions of reform in accord with science, and intolerant of advice, is the real and first cause that leads to lynchings. They are loud to denounce it, and without a suspicion of the truth, they serenely set about to enact statutes *to punish the lynchers.*

Indeed, may it not be that herein lies the one great cause of the inadequacy of our system? In the enactment of the criminal and health statutes the requisite knowledge is not brought to bear. The making of all our laws is in the hands of men who make no pretensions to science. and they are notoriously averse to being advised.

Science is applied knowledge. The most civilized races are the most scientific and progressive. We live in an age of enlightenment and advanced civilization. Never, at any period of the world's history, have the facilities for the acquisition of knowledge and the dissemination of information been so great in every department of life, and yet, in many respects, and especially in that pointed out above,—vital to society and human happiness and well being, man fails to profit by experience, and neglects to make use of the knowledge gained.

Knowledge, acquired in whatever way, is applied in the various arts, and made subservient to man's wants. In enlightened governments there are heads of departments whose function it is to gather and formulate the knowledge bearing upon their respective interests. This is true of everything except man's most vital interests—his health and well being, and the preservation

of a healthy standard of race. In this great country there is no department of public health, and State medicine is a nullity. The vast store of knowledge gleaned by laborers in the field, is not utilized in framing laws for the protection of the public health and morals and race preservation.

On this head Judge Benjamin Abbott, in apologizing for the jurists and the want of progress in the jurisprudence of insanity (Ref. Hd. Bk. Med. Sci., page 122), says: "The rude division into 'idiots' and 'lunatics' of two centuries ago survives in jurisprudence to-day. . . . Jurisprudence has had no peculiar methods of studying the subject, but has been accustomed to follow the course of medical science, and to accept, sometimes, indeed, only after long hesitation and inquiry, the results which skillful and experienced alienists have united in declaring established."

Jurisprudence has not studied the subject, yet will not accept the conclusions of those who have; here is confession of bigotry and intolerance.

Judge Abbott here uttered a pregnant truth, one which has a wider application, perhaps, than he was aware. It is the key to the problem, why our criminal and insanity laws are a failure.

To confess that the jurisprudence of insanity has not been revised in two hundred years, because jurists will not accept the conclusions of scientific investigators in this field, when in the meantime insanity has been studied in all its phases, and subdivided and classified till now there are nine forms of idiocy and six forms of madness known to alienists, would indicate that one or other of the forms of idiocy or mania had seized upon our rulers and law makers. Our statutes belong to past ages.

* * * *

Granting that the system is a failure, wrong in conception, too narrow in scope, and ineffective for the ends sought to accomplish, what should be done to remedy it?

The thinking members of the medical profession are being rapidly converted to the belief that *crime is a disease;* that habitual criminals are *sick persons*, and that their condition calls

for a more enlightened method of management. They know that many, if not most of them, are subjects of hereditary transmission of vicious temperaments, and are victims of vicious environment. It is beginning to be apparent that sooner or later a change must come, precisely such change as has taken place with insanity and inebriety. It has not been very long ago that drunkenness was regarded as a criminal offense, or rather, as a misdemeanor,—and was punished; nor since the insane were regarded as monsters,—or "possessed of a devil," that was to be exorcised only by blows and by straight-jackets; nor since the poor dement or idiot and the harmless maniac were, by law, burned as "witches," an act for which civilization is not yet done blushing. Opinion has changed radically, as regards these unfortunates; and with it, the system of dealing with them. The insane, and in some States the inebriate, now find repose and tender care and rational treatment in the great eleemosynary institutions of an enlightened age; and so opinion is fast changing with reference to crime and criminals, and the mission of science is to bring about a corresponding change in their status and management. Professor Flint, in his paper, says (*N. Y. Med. Journal*, Feb. 15, 1896):

"Crime is a disease of our social organization. It is true that it is ineradicable, but it may be restricted within much narrower limits than at present exist. Crime calls for intelligent and scientific treatment. While crime can not be abolished, all criminals are not hopelessly affected with crime. . . . Crime may be a constitutional disease, as in the born criminal, or it may be due, in individual cases, to surroundings, teaching, or example—a sort of contagion. It has been abundantly shown that criminals may be divided into two great classes, the curable and the incurable; but the disease which we call crime has nearly as many phases and varieties as are presented by the nosological catalogue. Society needs the aid of competent men to undertake the task of separating the curable from the incurable,—to restore the former to usefulness, and to protect our social organization against the latter. Jurists,—so-called lawgivers, and those who execute the law,—have failed. In my opinion, the only hope is in the medical profession."

The problem is, *how can these views be impressed upon those who are entrusted with the enactment of the statutes?* The utter failure of the State Medical Association of Texas to awaken in the minds of legislators a just appreciation of the dangers attending the indiscriminate practice of medicine, or the unrestricted sale of nostrums deleterious to the public health, gives but little assurance that anything the medical profession of this State might bring before them upon this great subject, would receive more respectful consideration.

State medicine is the application in the aggregate, of the principles of medical and sanitary science to the prevention, cure, mitigation or relief of evils which affect the social body, and the prevention of those evils to posterity. It bears the same relation to the State or society that the individual physician bears to his clientelle; and embraces, of course, measures of prophylaxis against future ills as against existing evils. For illustration, any measure calculated to improve the race,—we will say, —restrictions upon marriage limiting the privilege to the fit, or castration of natural criminals, or insane criminals, or the criminal insane, to cut off succession as here advocated, are as much within the scope of its beneficient functions as is quarantine against disease; indeed, the entire treatment of criminals, as hereinafter proposed and indicated, comes most appropriately within its province; and when we shall have succeeded in getting a department of public health, the first step will have been accomplished. The State owes no higher duty to posterity than to protect it against a multiplication of those evils we now deplore, and are ineffectually battling against.

Medicine has ever been characterized by humanity and benevolence. The profession do all in their power to relieve suffering. Our grand hospitals and asylums are monuments to the benevolence and unselfishness of medicine. Yet it seems to be, after all, a false philanthropy, as it enables the afflicted ones to live on, and beget more children for the next generation to care for. Thus evil comes out of good, and our best intentions react to the ultimate detriment of society. By practical charity,

alms giving, and the tender care for the defectives and diseased, the operation of nature's laws is defeated, and the unfit survive, —and breed and multiply like flies.

On the subject of marriage, Judge C. H. Reeves, of Plymouth, Indiana, in a work called "The Prison Question," the most logical exposition of the subject I have ever seen, says:

"In regulating marriage, the law says that none shall marry within the third degree of consanguinity, and in some States the fourth, because marriage between near blood relations is likely to produce offspring deformed or diseased, physically and mentally. Insane and idiots shall not marry, because they can not make a contract, and because of hereditary tendency to produce idiots and insanity. It makes it a crime to marry in any of these cases. In this it aims to prevent degenerate offspring and protect individuals and society against the evils that would attend such offspring. * * *

"But if the vilest mortal that can live—one not in these classes—sees proper to marry, the law issues the license for the asking, taking a fee, makes a record, and leaves the offspring and society to shift for themselves in the best way they can. The confirmed inebriate, the weak-minded and semi-idiotic, the confirmed criminal, the offspring of the half-witted and insane, if lucid at the time,—the incurably diseased, the scrofulitic, the syphilitic, the hereditary pauper, the depraved and reckless—even paupers while in the poorhouse, and criminals while in jail, are in every way encouraged, given license, and are protected by the law. No thought is taken for the unfortunate offspring, nor for the body politic or social, and the irreparable evils that must fall upon all. The church adds its sanction, and its ministers aid in making these civil contracts, by performing the ceremony with benediction and prayer. * * *

"If it is wise to prohibit polygamy, marriage between near relations, between the insane and idiotic, because of heredity and transmissions of evils, it is equally wise to prohibit it in all cases where like evils may follow. If the law has the power to prohibit and punish violations in one case, it has equal right in all others.

* * *

"There is an endless procession of children from all these sources coming into the mass of population to live lives of crime, immorality, want, suffering, misfortune and degredation, trans-

mitting the taint in constantly ever widening streams, generation after generation, with the ultimate certainty of the deterioration of the race, and final irreparable degeneracy.

* * *

"It seems to me that there is a moral obliquity that affects the entire mass of political, social and religious leaders and teachers on the subject here being considered. When we analyze the views and actions throughout, the glaring inconsistency and unreasonableness that seems to fill them has no parallel in any other matter seriously affecting individual and the public welfare. Among the first is a false modesty, that is shocked by any allusions to the most evident and debasing facts that stare everybody in the face on all sides; that rub everybody at every turn.

* * *

"The church devotes its time and energies to prove that every human body possesses an immortal spiritual body, that is liable to future torture unless it be made perfect in morals and truth, and that must be done while it remains in its mortal shell. It pleads and raves for prohibition of liquors and tobacco, for forced observance of Sunday, for forced attendance on schools, for recognition of God, Christ and the Protestant religion in the civil constitutions, and for sundry other restraints and commands, with penalties, in order to save these imperiled souls. Reformers go about the land devising ways and means to educate civilize, provide for and elevate the ignorant, the degraded, the poverty stricken that pervade every plane of human action, and wander in and out among the people everywhere. And yet these, with general society added, hold up their hands before their faces in horror, if some honest soul who has truth for a guide, calls them to look, and points them to the source of the evils they are battling with, and tells them they are responsible for it all, for the law is only their united will in statutory phraseology. That it is the result of their voluntary blindness and false conception of civil, moral and religious duties. That they are seeking to deal with evil conditions alone, instead of the causes of them, and while trying to mitigate the evils in the results, are supporting, increasing and enlarging the causes. That on every other plane of action they recognize and deal with the causes; but with men and women they ignore the causes and battle with results alone. That they regard domestic brutes as of more importance than they do human beings."

Doubtless Macaulay had this condition of society in mind

when, forty years ago, he predicted the disintegration and downfall of the American Republic. Writing to Henry S. Randall, in 1857, he said: "I have long been convinced that institutions, purely democratic, must, sooner or later, destroy liberty or civilization, or both. Your constitution is all sail and no anchor. Either some Cæsar or Napoleon will seize the reins of government with a strong hand, or your republic will be as fearfully plundered and laid waste by barbarians in the twentieth century as the Roman empire was in the fifth, with this difference—that the Huns and Vandals, who ravaged the Roman empire, came from without, and that your Huns and Vandals will have been engendered within your own country, by your own institutions."

It would seem that a rational people, with such facts before them, for instance, as those furnished by Dugdale's history of the Jukes family, from whom 1200 criminals descended, would profit by it, and take steps to close the flood gates of evil. And the Jukes case is not an exceptional one, by any means; there are thousands such; they exist every day, everywhere.

The magnitude of the evil and danger resulting from our criminally lax marriage laws, is simply appalling. Yet few ordinary citizens—those who pay the taxes—have a conception of it, or realize the extent of the cruel wrong done them by permitting it.

An intelligent comprehension of the subject would, therefore, indicate that the first step in needed reform is State regulation of marriage with a view to the arrest of descent of crime by hereditary transmission of the tendency. And, dealing directly, then, with the crop on hand, it is suggested that punishment, as such, as a penalty, should have no place in a civilized code. It is permissible only as a feature of discipline incidental to reform; that as criminals are divisable into the two great classes, the curable or accidental criminal, and the habitual or incurable criminal of Lombroso,—the end and object of penal enactments should be the *cure* of the *curable*—the reclamation to usefulness of those who are amenable to it, and the *elimination of the incurable.* To this end, therefore, a classification of all criminals is necessary.

Classification can only be done by medical men. The entire subject comes legitimately within the scope of State medicine; here, indeed, it finds its most appropriate field.

When the character of the crime has been determined by the court, it would seem to be in accord with the requirements of the case and the dictates of an enlightened humanity, that there should be medical men to *diagnose the criminal*, and prescribe the course, which, in their judgment, is best calculated to meet the demands. If it be one of the curable class, the treatment, consisting of restraint, discipline, hygiene, education, environment and healthy labor, should be such as to induce a determination to never offend again. Pride and self-respect should be fostered, for they are the highest incentives in life to good behavior. The term of imprisonment should depend upon the progress made in reformation; on good behavior;—the culprit made to realize that when he gives evidence of fitness to be trusted with his liberty, it will be restored to him. And primarily he should be lifted above the environment calculated to debase him in his own mind. The incurable,—the born criminal of Lombroso,—should be dealt with as a permanent enemy to society, and the first aim in his case, after sequestration, should be precautions against a progeny; to cut off his race. When a man has been diagnosed as a natural, i. e., an irreclaimable criminal, twice convicted of any felony, along with the forfeiture of liberty for life, and all other rights, he certainly should be deprived of the right (and the power, should chance permit) to inflict a progeny upon the next generation. Why *not?* Can anyone give a single reason why this right should be respected when all others are taken away? I think not. The strange veneration people seem to have for *those particular possessions*, which induces them to plead that they be spared even when every other right has been forfeited and taken away, is the last remnant of the old Phallus worship; a superstition of the fifth century.

Capital punishment is becoming more and more abhorrent to thinking people, and is being very generally condemned by

medical writers as *barbarous, useless and unjustifiable;* and castration as a substitute therefor, is rapidly growing in popular favor. Much of the prejudice that existed against castration is disappearing under the light of reason. Indeed, it seems to me that there is every reason why capital punishment should be abolished, and isolation and emasculation substituted; and the fundamental principles of justice demand that where possible, restitution should take the place of imprisonment. It is true, privation of one's liberty might be called punishment; it is so, incidentally; but let it be done for the purpose of reformation, and for the improvement of the morals of society, and not of revenge—miscalled justice. Coporeal punishment never made a school boy good; and the morals of a community can never be purified by a system of punishment entailing eternal disgrace as penalty for misdeeds. The sense of injustice arouses resentment and stirs the worst element in one's nature.

Gentlemen, the time has come and the occasion demands—if we would make an effort to preserve the integrity of our race and the safety of the republic, when the medical profession must look at this question from the higher standpoint of guardians of society and conservators of the public well-being, and none the less as trustees for posterity. It should be insisted that the voice of science be heard; that the great truths revealed by study and research, by laborious investigation, experimentation and compilation—truths vital to the dearest interests of mankind should be utilized in medical and criminal jurisprudence. Our entire system needs to be recast along broader lines, and made more comprehensive; remodeled and adapted to the changed conditions of a 20th century civilization. As at present constituted it deals with results alone, and utterly ignores causes. We concern ourselves with, and can not solve the problem of what to do with the criminals of this day and generation—without a thought toward, or an effort to close the avenues through which pour in ever swelling tides of the evil we vainly attempt to remedy.

Sisyphus, condemned to eternally roll the stone, had no more

hopeless, endless task than we are now engaged in; nor the Danaides one more impossible of accomplishment; it is as irrational as the attempt to purify a sewer by throwing disinfectants into the outlet. The helpless, worthless, vicious and dangerous come faster than love, philanthropy, religion, science and law can cure, care for, reform, or dispose of them.

Doubtless, by an organized effort on the part of the two learned professions, medicine and law, Congress can be awakened to the necessity of taking steps to make available sanitary knowledge in the jurisprudence of medicine and crime; to create a department of public health and hygiene, whereby such knowledge can be disseminated and made to reach and influence legislators, however unwilling.

While we may never be civilized up to a system of scientific breeding of peoples (as we do our stock), it unquestionably lies within the scope and power of State medicine to eliminate much that is evil, and bring about great improvement, even in the next generation, in the physical, moral and intellectual status of society. And chief amongst the agencies effective to this end will be,—State regulation of marriage, and sterilization. This is the mission of rational medicine; to the accomplishment of which the profession should address itself, with the conviction that duty requires it,—true philanthropy dictates it, policy suggests it, and it is demanded by every consideration of justice, mercy, and humanity.

DISCUSSION.

DR. J. H. SEARS, Waco: I wish to make a few remarks on that paper. The doctor seems to be an infidel. I don't suppose he thinks God rules in this world. He does not believe in the teachings of the scripture, nor that God understands what justice is. God requires in His law blood for blood, and he proposes to punish any nation that won't punish a criminal; that blood guiltiness shall rest upon the people that refuses to do so. This is the justice of God. When a man kills another his blood is required by the Almighty God that created him. Do you suppose that He would do an injustice? Dr. Daniel so accuses Him. The avenger of blood in the old time was the brother

of the murdered person, and it was his duty to kill the murderer. They had cities of refuge. When a man killed another accidentally, if he could get to the city of refuge before the brother avenger caught him, he was safe; but if he caught him between the place of the accidental murder and the refuge city, he had a perfect right to kill him. God says distinctly that if we don't punish criminals for crime the sin shall rest ot our doors—we shall be criminals, for His law requires that a murderer shall be killed, his life shall pay the penalty. The doctor wants the State to regulate marriage. How can the State regulate marriage? Can we have a board to go over the State and examine every fellow that is going to be married, to see whether he has a crazy streak in him, or his wife, to determine whether or not they shall be married. What kind of government is that? Is that a free government. There is no danger to a free government if we punish criminals. If we do not punish criminals God will punish us. That is what He says. When a man commits a crime, God says punish him. There is no remedy for criminal acts except to punish the acts, and you can't punish a criminal so it will be in any way a remedy except to get rid of him. God knows us all. If He punishes us for our sins, and will send us, as the scriptures say, to an eternal punishment for them, I would like to know what injustice we do to our criminals when we punish them. Dr. Daniel, I suppose, would turn them all loose. He says emasculate them. Is that a punishment, to castrate? If you castrate him what sort of a man is he? Wouldn't he rather be hung? You leave him with his heart full of vengeance, and with his testicles out he can do anything. He can murder just as well when he is emasculated as he could before. I say when a man commits murder hang him, and the quicker you do it the better. Purify yourselves by punishing crime, as God would do.

DR. N. B. KENNEDY, of Hillsboro: I want to say that I endorse every word of Dr. Daniel's paper. The old doctrine in the Bible that Dr. Sears speaks of was that of a lot of barbarians who wandered over the country, and I believe lots of those things emanated from the man who said that if they went and conquered a certain people they could kill all who urinated against the wall, and take all the women that had not known men by lying with them, and take as many of them for wives as they pleased. It is all the same kind of teaching. I believe in cases of rape you will find emasculation a sovereign remedy. I do not believe you would have one more case of rape if you emasculated as a punishment.

DR. SEARS: It seems the doctor is an infidel. If you will read what those people did, you will find they were just as intelligent as we are. They were living under a theocratic government.

SECTION ON GYNECOLOGY.

REPORT OF CHAIRMAN, T. J. BELL.,

TYLER.

Mr. President and Gentlemen of the Texas State Medical Association:

I fully appreciate my incompetency to address you upon a subject of so much importance, and one whose importance has for many years been broadening and lengthening and heightening and deepening until the vastness of its occupancy is bounded only by the study of the fairest of God's creation from the crown of the head to the sole of the foot.

I believe there is no one branch of our science which is made to cover so much ground, pathologically speaking, as the one upon which you have said that I should address you on this occasion, and no one branch, perhaps, upon which there is more discussion, and a greater variety of opinion; and surely no branch which has more devotees, and hence more rivalries in surgical procedures, each striving to attain to that par excellence that will place his name "above every name" in the annals of medical history.

One might think by reading only the text-books and journals of the last decade or two that pretty much all that is known of gynecology or diseases of women and their treatment had been discovered and worked out by men of modern times, and that in former ages the profession was in total ignorance of the female organism and the afflictions to which she is prone, and the means for their relief.

If this were true, and if in this, the 19th century, we have made discoveries and wrought out problems in the study of our

fair help-mate of which our fore-fathers never had given us an intimation, may it not be that the developments of civilization—evolution if you please—of the human race, brought about by our departure more and more from our increasing neglect of the laws God gave to man for his guidance. May it not be probable that with civilization and the wisdom secured to mother Eve by the eating of the apple, increased to unmentionable degrees, have been the prime factors in the causation of pathological conditions of which our worthy progenitors never had occasion to discover.

Had we lived in the 1st to the 16th century, how much we might have been surprised by many things that now seem to us as if they must have been so in all times; how that hundreds and thousands of healthy women are sterile, and as many more perhaps commit the terrible sin of infanticide.

And can you imagine the "consternation of" Hippocrates or Galen, had they been brought face to face with a case of "psycopathy sexualis."

But be this as it may, we may find by careful research that even Hippocrates, justly styled the father of medicine, living as he did many years prior to the Christian era had discovered and treated many of the ailments of the human body to which our attention is often attracted now. This is particularly true of diseases peculiar to females, for in his writing, as translated into the English language, he speaks of displacements of the uterus, and their treatment by pessaries; also of ulceration of the cervix and its etiology, ovarian cysts, pyosalpinx and some other pathological conditions which he describes in a very vague and peculiar manner, but nevertheless shows clearly that he was not altogether ignorant as to the science of gynecology.

Following ancient medical history on down we find Galen, who lived and wrote several hundred years after Christ, speaking of the Cæsarean operation, condeming its adoption in living women, and later still we find vaginal hysterectomy described and advocated by the more bold operators of that day.

It is said that Patella was the first to remove the uterus for malignant disease in 1812.

Senn claims that in 1813 Langenback, of Gottingen, made the first deliberate attempt to extirpate the uterus for cancer, through the vagina, and although his assistant gave up entirely and could be of no use to him in the latter part of the operation, he successfully completed the operation, and the woman lived for many years afterward.

After the downfall of the Roman empire all the sciences suffered much, and the set-back received from the results that followed was not recovered from until about the 15th century.

France, it is said, was the first to revive the study of the diseases of women, and under such men. as Ambrose Pare, Recamier, Jobert de Lambelle and others, gynecology has been brought up to its present standing, but as Americans, we can justly feel proud of our part in furthering gynecology, more perhaps than has been done by any other people of ancient or modern times.

Until Ephraim McDowell removed the diseased ovary of Mrs. Crawford, under the embarrassment of a threatening mob, ovariotomy had only been theoretically known, and although the effort has been made to wrest the honor from him, the name of Ephraim McDowell as the father of ovariotomy will be handed down to all time in the history of gynecology, and America's true sons will ever resent any infraction of this well deserved honor, or blasphemy of the name they so much revere.

Doubtless the success of this operation stimulated others in the profession, and was the incentive to more active study and earnest investigation in this branch of our science, for very soon we find T. Gailiard Thomas and Thos. Addis Emmet occupying the field, and whose excellent works have enlightened the beclouded minds of many of the sons of Esculapius, notwithstanding that some of their ideas were crude and are now known to be erroneous, for instance, subinvolution as taught by them as the cause of metritis and other uterine troubles, late investiga-

tion has proven that subinvolution is the effect and not the cause of many of these pathological conditions. On the other hand the operations of trachelorraphy, although done often perhaps without a proper conception of the object aimed at, and with an erroneous impression as to the effects of this reparative procedure, has proven a blessing to hundreds of women all over the land, and sorry am I to see the adverse criticisms and almost total abandonment in some quarters, of this simple procedure, which might be justly termed Emmet's "pet" operation.

Many of the otomies and ectomies of the present time were perhaps unknown to these men, and many of the inflammations and pathological states of the pelvic organs and tissues were probably understood but imperfectly, nevertheless their lamp lighted up the path that those who have followed often might see more perfectly the difficulties in the way, and many of them have been removed.

Cotemporary with these, and ranking among the greatest contributers to modern gynecology, the name of J. Marion Sims stands out in bold relief; he it is to whom the medical world will ever do obeisance, and to whom suffering women will ever owe profoundest gratitude, for his simple contrivance discovered by force of necessity, the vaginal speculum which bears his name. But of all men who have added their quota to this branch of medicine Lister doubtless stands pre-eminent, not that in surgical procedures he has done the most wonderful operations, nor that in diagnosis he has acquired the greatest skill, but simply that he has demonstrated to the world that by the use of antiseptics in the treatment of disease or in surgical operations, mortality may be reduced to a minimum.

By the application of this wonderful yet simple discovery, together with a more rigid enforcement of aseptic precautions, surgical work in gynecology has been made attractive, and today the name of our successful operators, men who invade the most sacred precincts of the female anatomy with impunity, is Legion.

In the line of advance within the last few years doubtless many things are being done by some of the more daring,—and may we not believe, unscrupulous operators,—that the great search-light of truth will after awhile reveal to be the result of a morbid desire to become famous.

Ovariotomy, while by no means a newly learned or recently adopted operation, has become so popular that it is no uncommon thing to read of its having been done for the most trivial reasons—nervous disorders, for which a satisfactory reason cannot be elsewhere discovered—pelvic pains, whether it can be determined to be the result of acute inflammatory action, or from an unmistakable suppuration, and other conditions the attending symptoms of which have tended to render obscure the pathogeny, the fault has been laid at the door of the most sacred part of the female anatomy—that which makes a woman a female—and for either or any of these reasons women have been unsexed and made perhaps the most miserable creatures on earth, unless it is their unfortunate husbands.

Nevertheless ovariotomy has a permanent abiding place in gynecological surgery, and properly so, for by it, when all other means fail, we may relieve the poor sufferer of untold agony, and may add years to her life.

I might mention other operations that have been done, only a few times perhaps, that would have been better left undone, and yet we know that to sum up the great advances in gynecological work, nothing else in the science of medicine has compared with it as to the great good that has been accomplished by its application.

The intelligent use of the curette in the treatment of uterine troubles is among the many improvements of the last decade. It is true that for many years prior to that time the curette had been used—some praising, while others condemned—but not with that degree of intelligence as is now marked by the augmented benefits following its application. Those who advocate the use of the sharp curette—many of them condemn in strongest terms the dull curette, and vice versa—those who more zeal-

ously favor the dull curette in the treatment of most cases of uterine disease, charge the use of the sharp instrument with having done great harm, and it is not unreasonable that in septic endometritis the vigorous use of the sharp curette may result in much mischief, opening up fresh points for infection, so that instead of benefiting the patient by reducing a local sepsis, a general septicemia may be set up; or, on the other hand, the uterine walls being more or less œdematous, and the fibrous tissues less resistent, a perforation may be made, and as a result a general peritonitis may be set up from the septic material entering the peritoneal cavity. In chronic endometritis where the mucosum is studded with granulations or fungoids, it is very generally conceded that the use of the sharp curette gives the best results.

As to the intra-uterine douche, there is as great a difference of opinion as exists in regard to the use of the curette.

Thomas gives it as his opinion, from observation, that generally the injecting of fluid into the uterine cavity should be condemned, while Skene and some other recent authorities advise, with little reserve, the douching of the uterine cavity with some antiseptic solution after curettage.

Dr. P. Michinard, of the New Orleans Polyclinic, declares that the use of the uterine douche is a very hazardous practice, and instead advises the swabbing out of the cavity with sterilized gauze as a much safer procedure; others, among the more modern gynecologists, believe, as does Dr. Michinard, that mischief is often unwittingly done with intra-uterine irrigation, there being in every case danger of driving some septic or infectious matter up through the mouth of the tubes, thereby setting up an infection which is likely to result in salpingitis; or whether there exists any septic or infectious matter in the uterus, even a portion of the fluid from the douche passing into the tubes may set up an irritation which will cause great pain and distress if not inflammation.

The operation of trachelorraphy for the repair of the lacerated cervix has been done, with few modifications, after the manner of

Emmet, since he first wrote upon the subject, but it is now known to have the best results from this operation, the pre-existing endometritis must be cured, or, at least, modified, thereby reducing the hyperplasia of uterine tissues, which was thought by Emmet to be a cause, and not a result, of endometritic inflammation.

It is now generally admitted that Thomas and Emmet placed the cart before the horse—that the injury to the cervix so interferes with or interrupts the proper nutrition of the part, that a catarrhal condition is set up in the endometrium which will, in a short time, by increase of plastic material, prevent the uterus, as a whole, from resuming its normal size and shape, and that this subinvolution merely co-operates with other conditions to bring about displacements and other distressing symptoms.

It is held by some, however, that repair of the cervical laceration will contribute to a more speedy cure of the endometritis, and therefore they begin the treatment, where a laceration exists, with an operation for the repair of this lesion.

The history of perinorraphy dates back to the time of Ambrose Pare, who was, says Thomas, "The first to advise the suture for the repair of lacerations of the perineum"; but, says this author, "the probable elevation to a reliable surgical procedure was due more to the achievements of Roux, of Paris, in 1832, who cured four out of five of the first cases operated upon."

Since his time the operation has become very popular, and has been done by many men and in many ways. However, nearly all, if not all, of the different procedures are to some extent modifications of the operation as done by Baker Brown—the Savage, the Sims, the Emmet, the Tait, the Galabin and the Heger operations are all Baker Brown's operations modified. A. Duke, of Cheltham, has adopted an entirely new operative procedure in these cases—more especially in those cases in which the anus and rectum are not involved; for a description of this operation I will refer you to a paper published in the

Transactions of this Association in 1894, as prepared and read by T. More Madden, of Dublin.

Suffice it to say that he simplifies the process very much, and if it proves what the author claims for it, it will often serve the inexperienced operator a very good purpose, because of its easy accomplishment.

Ovariotomy has been mentioned incidentally in another part of this paper and therefore will not engage our attention here.

Removal of the tubes for salpingitis—salpingotomy—especially pyo-salpinx, has become of late years a popular operative procedure, and can truly be said to be a modern operation—perhaps there is no surgical procedure which necessitates the division of the abdominal wall that is being done more frequently than this, and when done under proper antiseptic precautions is most generally attended with good results.

Hysterectomy, while it is referred to in Thomas' edition of 1880 as having been done prior to that time for removal of fibroids, the removal of the uterus has been very much modernized, and is now considered advisable under certain conditions other than for fibroids, and the vaginal, as well as the abdominal route, each has advocates among the ablest operators of the day.

The great improvement over the older methods of operating for nearly all diseased conditions of the reproductive organs of the female, consists mainly in the technique of the operation—as has been heretofore remarked, the strict observance of asepsis and antisepsis are responsible mainly for the better results obtained; and the man who would to-day undertake any surgical procedure, be it ever so trivial—to say nothing of the major operations, such as are mentioned above—ignoring these principles, would not be held guiltless by the profession at large, and should be held morally responsible for such evil consequences as are likely to result from this neglect or refusal to adopt the most modern rules of aseptic as well as antiseptic surgery.

TUBAL PREGNANCY.

BY JOSEPH PRICE, M. D.,

PHILADELPHIA.

The following extracts from a letter of an eminent physician and surgeon of Texas, one who has made the diseases of women —both from a clinical and scientific standpoint—a careful study, presents in a direct and intelligible form the first difficulties that confront the general practitioner in cases of tubal pregnancy.

"Recently in this town two lovely young married women died from ruptured tubal pregnancy about the twelfth week. They were not known to have this form of pregnancy prior to rupture. They died in collapse, one after twelve hours, the other after twenty-four hours. The physicians in attendance refused to operate until reaction had occurred, which never did. Would you operate during collapse in these cases? How are we to know that reaction will occur? How are we to know that the extravasation of blood may be limited by pre-formed adhesions or peritonitis? Again, is Mr. Tait always correct in the signs which he gives, that the blood effuses into the broad ligament, one case of my own disproving this? You have seen Mr. Bantock's recent report of cases. He would never operate during collapse, but wait for reaction, and he did wait to see his patient die unrelieved. It may not be possible for these points to be settled, but we must come to some conclusion which may be followed by the general practitioner."

The absolute or certain diagnosis of tubal pregnancy is impossible except where rupture has occurred. In tubal disease with occlusion objective signs may be prominent and subjective absent. With a doubtful history, a guess at the diagnosis is not diagnosis, even if it should prove to be right. Where collapse is prominent and the symptoms are unquestionably those

of concealed hemorrhage, the loss of time in waiting for reaction results about always fatally. Fatal hemorrhage at no other part of the body would be so managed. Severed or wounded vessels, traumatic aneurism, shot and stab wounds of mesentery vessels, bladder or kidney, are all managed successfully by prompt surgery. Then why, with our knowledge of this fatal trouble, should we stand timidly and idly by, and, with folded hands, look on while the abdomen fills with blood and dissolution rapidly follows? Surely the same surgeon would not stand idly by in a case of post-operative hemorrhage of any character. I can find no surgical or scientific reasons for hesitancy or delay in the face of such conditions.

The results of delay are well known to every surgeon who has had any experience with these cases, and few—none in fact—in extensive general practice have failed to meet with them, whether they recognized such to be the trouble or not in question. It requires surgical courage and caution to deal with them, a courage that would have taken "Achilles by the hair and bent his neck."

The unfortunate and suffering woman is entitled to the one and last chance, and very frequently where these cases are met with by the general practitioner, there is no time to summons an expert and experienced specialist; the case must be promptly dealt with or lost, and there is no reason why the general practitioner of good surgical judgment and skill should not with promptness surgically interfere in these emergency cases, where the issue of life is involved in quick work. Heroic effort should at least be made, and the case not left prematurely to the undertaker. Bilroth says that the failures in the treatment of wounds at a well-ordered surgical clinic have become as rare as accidents on a well-managed railway. The same statement may be made with equal truth of the experienced, skillful and courageous general practitioner. We cannot realize too fully the urgency in these cases. Twice, after preparing rapidly for operation upon patients dying of hemorrhage due to ruptured tubal pregnancy, I have received messages from the husband commanding

me not to operate upon his wife. I have read the message to the wife, telling her that she was the one to decide, as she was the sufferer and the one whose life was in peril. In both cases I was requested by the wife to go on with the operation; both recovered, and in both cases I received the thanks of the husband.

There are no positive rules to guide in cases of so-called extravasation of blood. About 50 per cent of all these cases which go into the hands of the coroner die suddenly. All cases reacting from the primary rupture and followed by recurring leakage and hemorrhage belong properly to the surgeon, and are strictly favorable cases for the removal of the offending tubes. Accepting, as I do, the proposition of Mr. Tait, that all extra-uterine pregnancies are primarily tubal, and that all so-called varieties depend upon the location of the ovum in the tube and the location of the point of rupture of the tube, I will divide the subject into three classes: First, extra-uterine pregnancy before the rupture of the tube; second, at the time of rupture of the tube; and third, after the rupture of the tube.

Rupture of the tube is not synonymous with rupture of the fœtal sac, for though rupture of the tube and sac generally occurs at the same time, it sometimes occurs that the tube ruptures and the sac remains intact, and this may in part explain the fact that cases sometimes occur in which the tube ruptures without causing exhaustive hemorrhage. I have in several instances found the sac intact, and a small fœtus floating in its sac. Recently the coroner's physician of Philadelphia "posted" a woman who had died from hemorrhage; he found a little fœtus floating about in its membranes wholly intact.

I have said that the diagnosis of extra-uterine pregnancy before rupture of the tube is rarely made, and when it is made, is of necessity not positive, because the same set of symptoms may arise from a number of pathological conditions. For example, a retroflexed gravid uterus, an ovarian cyst, a uterine fibroid, and hematosalpinx, have all been mistaken for tubal pregnancy, differential points of diagnosis not being clearly pre-

sented. Tubal pregnancy is favored by the presence of tubal and ovarian disease, and is very commonly complicated by advance tubal and ovarian disease.

There may be a tubal pregnancy of one side and an adherent and dropsical tube or a small dermoid on the opposite side. These mixed pathological conditions are of common occurrence in operations for ruptured tubal pregnancy. Tubal pregnancy co-existing with normal pregnancy has occurred several times in my experience, abortion and rupture of the tube occurring about the same time; a fœtus found inside and one outside—an unusual variety of twin pregnancy.

The recurrence of tubal pregnancy on the opposite side has occurred many times after the first operation; patients have borne one or more children before the recurrence in the remaining tube. In this relation I can quote no better, more trustworthy or higher authority—an authority more strongly founded in wide and successful experience—than Mr. Tait, one who always speaks from the table of his clinic.

The case he reports has a peculiar and pointed interest:

"The patient was rather an intelligent woman of her class, and, having undergone the terrible experience involving her first operation, had obtained a fairly full knowledge of the nature of the accident and its consequences. Yet with this dreadful experience, and the knowledge of it, when the same condition recurred, so little did she suffer that up to the moment of rupture (knowing she was pregnant) she never thought of asking for medical assistance; and this was the case also in her last tubal pregnancy. There were no symptoms whatever to draw attention to her state until the rupture occurred; indeed, there were no symptoms even calling for examination. The strangest thing of all to me is, that in the enormous experience I have now had of tubal pregnancy, I have never but once been called upon even to make an examination until the rupture had occurred, and in that case there was neither history nor symptoms which enabled me to more than determine that there was tubal occlusion. Not, indeed, until the rupture occurred and

the abdomen was opened, was diagnosis possible. Under these circumstances, I think I may be excused for maintaining a somewhat sceptical attitude concerning the correctness of the diagnoses of those gentlemen who speak so confidently of making diagnosis in cases of tubal pregnancy before the period of rupture, and who speak with equal confidence of curing the cases by puncture, either simple, medicated or electrolytic."

The physician rarely sees such cases until rupture has taken place. When such cases are seen they are generally in patients exceedingly anxious to conceive, who, after a long-continued sterility, have reason to suspect themselves pregnant; or by patients who, having missed one or more menstrual periods, are anxious to know their condition. The symptoms they present are as follows: First, partial or complete cessation of menstruation for one or more periods, generally accompanied by other rational symptoms of pregnancy, though occasionally these are all wanting; second, pain which is peculiar, being generally severe, paroxysmal and long continued—a sickening pelvic pain, which is neither cramp-like nor colicky, though it is often described by these terms—these pains, probably caused by the distention of the tube, are apt to subside for a time, only to recur; third, the appearance of uterine hemorrhage, which is again peculiar in that it is usually irregular, both as to time and quantity, generally lighter in color than the normal discharge and containing *shreds of tissue*, which are portions of the decidua vera.

The occurrence of these symptoms justifies a physical examination, when the general condition of the vagina and cervix may or may not be found to correspond to normal pregnancy. The uterus is generally enlarged and pushed out of place by a tender or exceedingly painful cystic mass, occupying the position of one or the other of the tubes. This cystic mass at this period is freely movable. A differential diagnosis is extremely uncertain, and care must be taken not to exclude pregnancy hastily because of the *apparent* return of catamenia, nor to conclude that *miscarriaye has taken place on account of the appearance*

of tissue in the discharge, nor to pronounce the trouble some other pelvic tumor while rational symptoms of pregnancy exist in fact. Some of the tumors liable to be mistaken for extra-uterine pregnancy have been mentioned, and when, as sometimes occurs, the fœtus and placenta die before the rupture of the tube, the difficulty of differential diagnosis is *practically insurmountable.*

These symptoms continue as the pregnancy advances. The tumor, as it increases in size, causes additional symptoms by pressure on the bladder and rectum until rupture occurs. Rupture takes place almost always between the eighth and fourteenth weeks of pregnancy— in a majority of cases before the twelfth week. Now, the symptoms vary somewhat, according to the point of rupture in the tube—whether into the peritoneal cavity or below it. If it takes place into the peritoneal cavity—as, on account of the anatomical relations of the tube, it is prone to do in a large majority of cases—the symptoms suddenly become most alarming.

"The patient is seized with agonizing pelvic pain, shows all the symptoms of internal hemorrhage and shock, goes into syncope, collapse and death. That this end is more frequent than is generally supposed is shown by a statement made to me by a well-known pathologist, Dr. Formad, while coroner's physician of Philadelphia, that within a very short period he had found in his post-mortem work thirty-five deaths due to ruptured tubal pregnancy—a class of cases which for many years has been grouped as death due to accidental hemorrhage. These deaths all occurred before the twelfth week of pregnancy.

"Where death does not immediately supervene the recovery from hemorrhage is gradual, the attacks of syncope often recurring. The patient presents an exsanguinated appearance; uterine hemorrhage generally occurs; symptoms of peritonitis, localized or general, make their appearance, and the patient slowly recovers only to undergo another attack of the same kind. A physical examination now may or *may not* disclose *characteristic lesions;* when it does the uterus is found enlarged,

displaced and fixed, and a boggy tumor will be found occupying the entire free pelvis. This examination, however, is often unsatisfactory, for the tube may discharge its contents beyond the reach of the examining finger; or the adhesions may so fix the whole vault of the vagina that nothing can be made out. The diagnosis must be made from the history of the case and the condition of the patient. The liability of multiparous women to extra-uterine fetation must be borne in mind, and the occurrence of the above catalogue of symptoms in such a patient must be given immediate and serious consideration.

"As has been said, these attacks may by *recurrent*, and it has been demonstrated by operative disclosures that hemorrhage may *cease* entirely for a time, only to recur with renewed violence, or may continue in small quantity as long as the patient *has any blood to lose.* If the patient survive thus far, the symptoms of purulent peritonitis or of a more or less severe septicemia set in, when finally death relieves the suffering woman.

"When rupture occurs below the peritoneum these symptoms are rarely so severe, and may, indeed, be scarcely noticed by the patient, the pain of rupture seeming to be only a transitory pang of colic. The hemorrhage is rarely or never fatal at the time of rupture—easily accounted for by the anatomical relations. The syncope, if occurring, is evanescent. The discomfort of bearing down sensations is frequently complained of, difficulty of micturition and defecation is increased, but the patient recovers power very readily. Here, again, recurrent attacks mark the progress of the case, and the ultimate outcome depends on whether the fœtal sac is ruptured or not. Examination at this point will reveal a sensation of bogginess and distention in the pelvis—precisely that of a pelvic hematocele and often the body or extremities of the fœtus. The symptoms of peritonitis are wanting generally, and if examination be not immediate the distension may, in a large measure, disappear, not necessarily by reabsorption, but by extension through the connective tissue spaces of the pelvis. If the fœtal sac has ruptured the fœtus dies, and if the condition is not recognized and

relieved by operative measures the patient goes into a state of chronic invalidism—the victim of obscure pelvic troubles—until nature relieves her as much as possible by disposing of the misplaced products of the accident. Sometimes the patient recovers fair health and comfort.

In a small minority of cases the fœtal sac is not ruptured, and now the progress of gestation is similar to the normal until full term, providing a secondary rupture into the peritoneal cavity does not occur. This may occur, and when it does it kills immediately, the symptoms being those of the primary rupture greatly magnified.

After quickening, the doubts of pregnancy are settled, and the question is the location of the fœtus, whether within or without the uterus. The metrorrhagic discharge may have ceased by this time, especially so if the entire decidua has been thrown off. The severe paroxysmal pelvic pains may be very infrequent or have ceased altogether. The mammary changes are as in normal pregnancy, but the fœtal movements generally cause more discomfort, and are spoken of as being entirely on one side. The fœtal heart-sounds and the placental bruit are usually intensified, and as the fœtal sac enlarges it produces unusually distressing pressure symptoms on rectum, bladder and blood vessels. Physical examination is the only mode of determining the diagnosis. Examination of the abdomen will generally show the fœtal tumor decidedly on one side or the other. Occasionally the fœtal extremities may be felt very distinctly, and even appear as projections on the abdominal wall. This, however, is of no use unless in conjunction with other more distinctive signs. The fœtal sac is generally less movable than the gravid uterus. The fundus uteri can frequently be felt as a distinct mass on the fœtal tumor. Vaginal examination shows the uterus enlarged, but not *in proportion to the duration of pregnancy;* generally displaced to one side, in front, or beneath the tumor. The cervix is enlarged, and soft as in normal pregnancy, *but not in proportion to the duration of pregnancy.* The cervix is also greatly displaced. The pelvis is filled with the

fœtal sac, which gives the sensation of fluctuation or of semi-fluctuation, and frequently a part of the fœtus may be present. The fœtus sometimes is so plainly felt as to leave the impression of a presenting part covered only by a membrane. This, however, is not peculiar to extra-uterine pregnancy. If the patient carries the extra-uterine gestation to term, spurious labor will take place. It is accompanied by metrorrhagia, and sometimes followed by a vaginal discharge resembling the lochia. After this spurious labor the fœtus dies, and is disposed of in a variety of ways by nature. A discussion of these ways lies outside the province of this paper. I have also purposely omitted any discussion of such grave occurrences as extra-uterine pregnancy occurring in a hernial sac, twin extra-uterine pregnancies, or extra and intra-uterine pregnancies combined, for the reason that I have desired to make my remarks so general as to leave the way open for a very *full and free discussion.*"

Referring again to the general practitioner, I would add that I am aware that certain objections will be raised by not a few specialists to the general practitioner making ventures in operative procedure, however urgent and desperate the case may be. I would suggest that our pioneers in gynecological surgery were general practitioners. We need to name but few; MacDowell, Burnham, and the Atlees.

The distinguished British physician and general practitioner but a little later on than the period in which these men worked, —based upon experiments which he made upon animals, and upon observations of the tolerance of the abdomen in man, wounded by accident or design, maintained that opening might be made in the human peritoneum which would not be necessarily fatal from inflammation; that viscus or parts of viscus could be removed with comparative safety; that the fallopian tubes might be divided, the ovaries removed, ovarian cysts extirpated, cancerous uterus excised, and in rupture of the bladder into the peritoneum that the bladder should be opened and the peritoneum washed out. The gynecological field is not a pre-empted one, no *title in fee* to it is held by the specialist. There

is no special genius in the field; there is special devotion, knowledge, skill, confidence and courage that come of wide experience, and there should be that which is supremely important, a refined professional conscience. The specialist may have exceptionally large experience in his particular field, and the information and skill which come of such experience. By reason of the limits within which the specialist works, devotes his thought and research, his office is an important one; he is a kind of court of final appeal.

The rapid advances in the art of gynecology have created the necessity for its being made a special study. The special hospital has been an outgrowth of this special study, and from these private hospitals the study and teaching has forced its way into the general hospital and medical colleges. Gynecology would not occupy the advanced position, the vantage ground it does to-day but for the private hospital. It was from them colleges, general hospitals and general practitioners have taken their lessons.

DISCUSSION.

DR. MCCLINTOCK, of Topeka, Kas.: (Dr. McClintock prefaced his remarks by exhibiting a specimen of an extra-uterine fœtus.) These cases of extra-uterine pregnancy are, by a number of practitioners, thought to be uncommon. I believe they are very much more common in practice than you imagine. I saw a man on Tuesday who told me he had nine cases that he had operated upon in his country practice, and all of them recovered. This is a specimen of extra-uterine pregnancy that I removed two years ago. It was a complicated case. This woman became pregnant sixteen months before I saw her. Four months before I saw her she again became pregnant, this time intra-uterine. She came under my care, and I, with Dr. Frances Stores, of Topeka, opened the abdomen and removed this fœtus. The fœtus in the uterus was removed by a practitioner who wanted to introduce a sound. This fœtus was loose in the abdomen, among the intestines. The tube had ruptured down into the broad ligament, and the growth had gone on. The broad ligament sac did rupture later, and growth had gone on in the abdomen to the full nine months. The woman

then went into a false labor, and death of the fœtus resulted. Another pregnancy, as I have said, occurred. This complication, double pregnancy, I refer to more particularly because it was brought up in the report of a case by Dr. Michenard, of New Orleans, that was read before you yesterday, of tubal pregnancy. Since operating on this case, I had one more, which was complicated in the following manner: Fourteen months before I saw the patient she became pregnant in the left tube. She went to the physician, who is now the president of the Kansas State Medical Society. After seven months the child died in the tube. The tube had ruptured down into the broad ligament, and he told her she was mistaken, she never had been pregnant. Twelve months after her first pregnancy she went into his hands again, and he said, "You are pregnant." "But," she said, "doctor, you told me that before, and nothing came, and now you say I am pregnant." "Well," he said, "I had forgotten about that." She left him and came into my care, fourteen months after she first became pregnant, at a time when she was in the lowest condition of shock. The tube had burst into the abdomen, and the woman was exsanguinated by the profuse hemorrhage. I opened the abdomen, turned out the seven months fœtus, which had been in there fourteen months,—seven months old when it died,—and on the opposite side I took out an unruptured tubal pregnancy that was eight weeks advanced,—a living fœtus. The patient did not rally from her profound shock, and died the following day.

CONSERVATISM IN GYNECOLOGY.

R. R. WALKER, M. D.,

PARIS.

When we speak of conservatism, I suppose we mean to preserve. In all branches of medical science, there is no point to which the physician gives more thought and more attention than the one that preserves and protects his patient. There is no aim higher nor more exalted than the one that gives to his patrons the best results, with the least discomfort and danger to life. It is not at all the best plan to submit your patient to a capital operation, when one less dangerous will answer, and have the same result. You will, in course of time, achieve an unenviable reputation. The surgeon who saves a limb, is far more a surgeon than one who has amputated recklessly a hundred limbs. The gynecologist who has prevented a laparotomy is far wiser than one who has recklessly unsexed a thousand women, even though his death rate be far below the average. There are times, however, when a limb has to be amputated, and also times when a woman has to be unsexed, and at these times no conservatism need be approached, unless conservatism applies to the length of your incision, or a method of cutting your flaps, and then you rob the word of its meaning. In other words, I for one am willing to strike the word conservatism from out my vocabulary. There is no such thing, no such word as conservatism, but brought down to a firm scientific and classical lexicography, the term judgment could be far better used. The sole object of this paper is to emphasize the fact that conservatism when applied to gynecology, is a refuge, a harbor for the uncertain, and a cloak which careless, indifferent gynecologists throw around themselves, and from under whose flimsy

texture they deride and decry their more advanced and more capable cotemporaries.

In these days, in which we live, so advanced have been the heritage of our progenitors, so thorough have been their researches, that to-day we see before us results so clearly that one can hardly realize how difficult the problem was. With our every improved methods of examinations, etc., none are excused for a careless, hurried, unwarranted diagnosis. When we place a woman on our examining table, we should be able to tell her where the trouble is, locate it exactly for her. If she has an endometrium diseased, granular and septic, she should know it. If the tubes and ovaries are large, tender and acutely inflamed, you should be able to tell her all about it. In other words, make your diagnosis before attempting anything. Don't make it after you have operated and possibly killed your case. You should be able to differentiate between endometritis with peri-uterine deposits, and pyosalpinx or suppurating processes in the ovaries. I appreciate how difficult it is at times to arrive at a definite conclusion as to the exact nature of a growth or swelling in the pelvic cavity, and that a laparotomy may have to be resorted to; or rather we cannot make a distinction until we have opened the abdomen. And by all means, if you hope to be able to cure your case, should an early diagnosis of malignancy be made, for it is in the incipient stage in which we are able to thoroughly eradicate these troubles. In such cases there is no such word as conservatism, or rather there is no such practice as conservatism. The entire process has to be removed. We are constantly reading current medical literature of conservative currettement of uterus, for diseased adnexæ, with reports of success, and in the same periodical we see reports of cases where the entire genital tract, almost from the vulva to the ovaries, is removed in mass for peri-uterine inflammations. And between these two extremes, most of us, are searching for truths, are delving and digging for that general wisdom and practical application that will give to our patients the best of results, and to ourselves the greatest bless-

ings and satisfaction. Unfortunately for us, the medical press is too prone to sensationalisms, as a great many of its contributors, apparently, are seeking a shorter road to notoriety than nature intended, and while many of the newest and conservative procedures are brilliantly illumed and handsomely bedecked by painted and hand made statistics, yet when carried into the field of battle become but pop-guns as compared with the latest improved Krupp machine or the old reliable Springfield rifles. I have most profound regard for a producer of something useful, but scarcely respect for a producer of *something* Oh Lord!

Now I claim, as said before, that the term conservatism is a misnomer, and when brought down to an identity, we find it so. "You either have or you haven't," and when you *have* there is only one way to cure, and that is to apply remedies, or institute proceedings that will relieve the suffering patient of her trouble. Now we may proceed by different routes, and may apply and use different therapeutic agents, but we should not lose sight of terra firma, the result we hope to gain.

Take a case for illustration. It is one of acute ovaritis; woman has acute pain in the ovarian region, a sense of weight, throbbing and burning sensation in the affected side, perhaps some temperature. We find the ovaries enlarged, misplaced and very sensitive to touch. In other words, we have a case of a ovaritis, dependent upon no infectious or septic trouble; at least we can find none. After a few days rest in bed, hot vaginal douches, we entirely relieve that woman of all her suffering, and she gets up as well as she ever was. If this inflammation is dependent upon septic element, within the vagina or uterus, as soon and as quickly as we can get rid of this poisonous matter the better will it be for our case. The conservative methods are not applied, but good old horse sense is a substitute. We find, however, that in spite of all our most radical procedures the case goes on, until we have either pyosalpinx, suppuration within the ovarian tissue, or both. Now it is in these cases in which the conservative crank gets in his work. He promptly advised

a curetment in either case, packs her up with gauzes of every color, keeps her in bed for two weeks perhaps (if she will stay there), at the end of which time he dismisses her as cured. He goes immediately to his journal and writes another long article upon conservatism, and the poor woman goes to another gynecologist, has her diseased pus sac removed and once more becomes an angel to her family and a solace to her friends.

This is not overdrawn, for repeatedly I have operated upon just such cases. I can truly say that I have yet a single case of pyosalpinx to see wherein there was any benefit derived from the use of the curet. On the other hand, I have seen a great deal of harm done by the use of the curet. Now this most useful operation of curetment is applicable in our daily practice, and when properly applied has proven a boon to suffering woman. But don't try to catch a mole by digging where he started; "dig where he is at." I have operated in perhaps twenty cases for pyosalpinx and ovarian abscess, in every case where I found an inflammation process about the tube, I have found their calibres obliterated, and even sacculated. How then can we expect to drain a cavity where we have no means of escape for the pus? Therefore, in these cases I consider the term conservatism, as applied to curettage, unpractical, unsound and against all good judgment. It is true we begin in curetting where the disease first attacked the woman, in nine cases out of ten, viz., the uterine mucosa. But we find that the enemy has advanced further on his march; and while we may find his foot prints, which we destroy, still he remains within his fortress as strongly fortified as ever. If not careful, and I take it that all are aseptic in their work, we will only succeed in starting up anew the original trouble. I don't know what has caused me to write this article, nor that I hope to rub out any one's experience and attempt to make him believe that what he sees he does not see, but such has been my practice, and so far I have had no reason to reject nor bewail my misfortunes.

I can not stop here without expressing my views as regards conservative methods of operation.

Again, in our medical press we find men who advocate vaginal hysterectomy, as against supra pubic hysterectomy, and vice versa. Men who prefer to operate through the vagina for all troubles about the uterus and its adnexæ. Some will resect a diseased tube, remove a suppurating or cystic ovary per vaginam, others for all such work, prefer the abdominal route. The method of operating through the vagina has been called the conservative route. And here again, I will say I can't see wherein the term is applicable. It is simply one of choice, and offers nothing in its favor. Again, you will see men who advise an entire removal of uterus and its attachments for double pyosalpinx of suppurating ovaries. To this practice I turn my head and say in the language of Dr. Price, "You might just as well remove the penis for suppurating inguinal glands."

Conservatism is misapplied at these times, and should mean due appreciation of the conditions, the most practical method of operating and an exercise of due caution, that will best enable you to say to your patient, I will do the best I can to rid you of all your trouble with the least possible amount of danger to life. And when you find your patient suffering with a uterine fibroid, ovaritis, pyosalpinx, endometritis, for God sake don't apply conservatism, and keep that woman on the gynecological table three days in the week for twelve months and then not benefit her. Tell her what she needs; that a thorough and complete removal of all diseased tissue must be done. And if you can't do it, turn her over to some one who can, and let sound judgment take the place of conservatism.

DISCUSSION.

DR. A. E. MCMAHON, of Marshall: I have listened attentively to this paper, and there are some points on which it seems to me the doctor is taking a very narrow stand. In the first place, I would like to refer to the objection against vaginal hysterectomy. These operations I think are done with greater ease through the vagina. I do not

believe in the abdominal method of operating in those cases that can be operated through the vagina. In the first place, it is more easily done through the vagina; in the second place, you have got a natural drainage tube: and in the third place, if you get along well with your case, and your operation is done well, the average patient will be sitting in a chair in five days, and in eight days will be walking about the room. Of course I wouldn't say that all cases should be done per vagina; there are some that cannot; however, I think they are comparatively few. There is one thing which is absolutely necessary, however, before anybody undertakes to perform a vaginal hysterectomy, and that is a minute knowledge of the normal structure of all the organs in the pelvic cavity. The physician should be an adept in diagnosticating the diseased condition. I would like, though, to emphasize one point that the doctor brought out, which is that he would forever debar the word "conservatism" from surgery. I do not believe there is a single symptom in any case without a cause. We should carefully look for the symptom, and in the majority of cases we can determine the cause. However, I will admit that there are differences in the thickness and density of the abdominal walls which will have to be considered, and cases where there is a great deal of fatty deposit in the abdominal wall which will defy and baffle any surgeon in this world in the early stages of certain disease. I do not see how we could make the diagnosis in all cases. I have met with cases where the abdominal walls were so thick and dense you could do nothing with them, even under chloroform. I have seen one or two cases that I think would baffle anybody, where the abdominal wall was thin. To cite one case: I operated on one case about four weeks ago that I had diagnosed about one year ago as chronic pelvic peritonitis; there was something that I could not recognize an account of the great amount of tenderness of the walls and adhesions. I couldn't apply any pressure, even under an anæsthetic. I did see, however, in this case, there had been some septic processes in the past. The uterus was retroflexed, and acted almost like a ball floating in the rectum. The symptoms pointed to the bowels and stomach, and there was more trouble with the bowels apparantly than with the uterus, but I found an encysted sac in the Douglas pouch containing about three-quarters of a pint of fluid from an old chronic peritonitis, with cystic effusion. Now, there was a case that I never could make out, and I believe it would baffle any man to do so. Sometimes we cannot know positively, but we can get very closely to it; and when an operation is necessary we should go ahead with it, not knowing previously exactly what we are going to do. And I want to take the stand, that vaginal hysterectomy is far easier than the abdominal method. It has got to be a pretty tedious

case that will take more than half an hour. It is very easily done. It is the easiest matter in the world to find the ureters if a man understands the anatomy of the part. He can go around the uterus with absolute safety, and it is as safe as any other operation.

I would like to speak a word or two about Dr. Stoddard's paper. There is one thing I wish to bring out. A man that goes to work on a cadaver to study the anatomy of the pelvic organs will certainly get fooled. I have studied the cadaver, and have tried to perform these operations upon it, and have not found such study satisfactory. We must study the anatomy thoroughly, but we must get some other book than Gray's if we wish to find out where the ureters are. Gray's book does not give the proper position of the ureters. If a man will study it so closely that he can take a crayon and go to a blackboard and draw these parts in their normal structure, and get their proper position fixed in his mind, he can go into the pelvic cavity with perfect ease by the vaginal route. Keep close to the uterus, then you can follow it with absolute safety. One little point I wish to mention here. You noticed possible yesterday that I was somewhat opposed to antiseptics. All my operations so far—they do not number very many—have been successful. I never have had fever follow one of them. I have not shaved the pubes, neither have I used an antiseptic.

DR. THOMAS J. CROFFORD, Memphis, Tennessee: I have listened to the paper of Dr. Walker with a good deal of interest, because it involves the great questions of radicalism and conservatism, and because it touches upon the question of vaginal hysterectomy versus supra-pubic operations in certain conditions. I am one of those who believe that the day has not come yet in which we can exactly define the limit of vaginal hysterectomy; and since we cannot define the limit of this operation we cannot define the exact limit of the supra-pubic operation for pelvic diseases, and the fight continues to go on. He alluded to the work of Dr. Joseph Price in this line, with whom I am very well acquainted, not only with the gentleman personally and his hospital, but his work, going over a period of several years. I do not know a superior operator by the abdominal route anywhere to Dr. Joseph Price. He represents one side. Perhaps Jacobs represents the ultra type of the vaginal route. Now I believe in this question, as in all other questions, that the medium of greatest good lies between the two extremes.

Not a great while ago the peritoneal cavity was regarded as something not to be entered at all except with fear and trembling. In a little while it was so safe that there were hundreds of men doing abdominal section where it ought not to have been done; and they did it so safely that they regarded this as the proper operation not only for

all abdominal conditions but for pelvic conditions as well. Since it had been made so safe to enter the abdomen through the supra-pubic route, they reasoned that we could do it with just as great safety through the vaginal route; and Pean, as you know, instituted vaginal hysterectomy, and Sigond, one of his first pupils, and others, took it up, and they found that they could enter there with as great safety. So far as safety is concerned, the mere entering of the peritoneal cavity is not the danger, but it is the condition of things you find after you get in. There are certain conditions that the doctor alluded to. First is a suppurative condition, where there are pus tubes, with universal adhesion. I don't care who opens that abdomen, whether it be Dr. Price or any less careful, less painstaking operator, if he has got to take up coil after coil of small intestine and free it from adhesions, and stitch up rents in the intestinal canal which have been torn in breaking up these adhesions, I don't care who he be, there is more or less danger in it. A great many of the advocates of the vaginal route propose that just in that class of cases, where you have the intestines coiled and matted together up as high as the umbilicus, if you will go in from below and take out the uterus, drain those pus sacs as best you can and enucleate them with a reasonable degree of trauma, it is a safer operation than going in from above. Having tried both, and having a somewhat extensive experience with both, I have no hesitation in saying that in just that class of cases it is infinitely better than the supra-pubic route. Now the doctor seems to act upon the idea that it is impossible for a patient to get along well unless all these adhesions of the bowels are freed. That is a mistake. Jacobs will report to you dozens after dozens of cases where he had gone in, enucleated the uterus, drained these cavities from below, and gotten out all the pus he could from below, left the tubes in, left the ovaries in, and had almost, if not quite a perfect recovery. The experience of Jacobs is that of every other operator who has performed this operation any great number of times. There is another point. There are certain cases—I can count some half dozen that I have done in the last few years, by the supra-pubic route, that would have been better by the vaginal route, because the uterus is diseased, because they don't get well with the uterus left in. Now, understand, I am not claiming that the vaginal route is the best for everything. I am not claiming that it is a cure-all for all these cases. I am not claiming that the supra-pubic route will not relieve the majority of those pus cases ultimately if you do thorough work: but I do claim that there are certain cases which have suppuration in the tubes and ovaries, that if you will take it all out and entirely remove the appendages, the uterus remaining behind, they will not get well until that organ is removed. Three

weeks ago I removed one in a case that I did section for diseased appendages three years ago. That woman got better but she was not cured. Her life was such a burden to her that she came back and had the uterus removed a few weeks ago, since which time she is free of those reflex pains which have been a burden for the last three years. There are certain of those cases that can not be cured until the organ is removed.

There is another question that the doctor brought up as regards conservatism. I believe vaginal hysterectomy can be done with such freedom from danger that we are inclined to remove the uterus in many cases where we could get along without doing so. Possibly there is not a man in the sound of my voice that has not seen dozens of cases of lacerations of the cervix (bilateral lacerations). There are a certain percentage of these cases associated with disease of the uterus that if you will open up these old lacerations, take out all the cicatricial tissue that is there; this can only be done by inserting a tenaculum in the upper lip, and another tenaculum in the lower lip and separating them by traction up and down, then by inserting the finger you will find this old tissue running up two-thirds of the way to the fundus. If you will remove all this tissue and put it up snugly by proper suturing you will be surprised at how many cases of that kind you will cure when hysterectomy is thought to be indicted. That is what I call "conservatism," and I am in favor of that sort of conservatism. It is a great mistake to go too boldly at these cases because we can do it. Now, there are many men that are doing just that sort of work, taking out uteri that ought to be left in. There are many tubes and ovaries that have been taken out that ought to have been allowed to remain. With proper treatment and watching, and keeping up with the case for six or eight months, you can make that woman perfectly well, and she will go on carrying out her destiny, having children if she be a married woman, and be happier and more useful to society. Therefore, I differ from the doctor, in that there is such a thing as conservatism. It is a great thing and a useful thing in government or municipal affairs, and in my opinion it holds a very high rank in medicine.

APPENDICITIS—ITS RELATION TO GYNECOLOGY AND OBSTETRICS.

PAUL F. MUNDE, M. D.,

Professor of Gynecology at the New York Polyclinic and at Dartmouth College; Gynecologist to Mt. Sinai Hospital, New York.

Until quite recently the opinion seems to have prevailed that inflammation of the vermiform appendix occurred only in the male sex. At least, the absence of reported cases in the female would lead to that conclusion. Of course this was not actually the case, for there is no physiological, anatomical or pathological reason why the appendix should not become inflamed quite as readily and quite as frequently in the female, young or adult, as in the male of all ages. The explanation of this apparent immunity in women may probably be sought in the vast preponderence of inflammatory affections of the uterine appendages and pelvic peritoneum and cellular tissue, which so overshadowed the intestinal appendix as to cause its disease to be overlooked or undervalued. I have no doubt that I myself have failed to recognize in past years many an appendical exudate and abscess, mistaking it for a pelvic cellulitis or peritonitis on the right side. A proper consideration of the exact site of the inflammatory product, whether it encroached upon the pelvic cavity, or was situated in or above the iliac fossa, would easily have settled the question, if the idea of an appendicitis had occurred to me. But as in former days many a case of tubal pregnancy, particularly after rupture, was not recognized in time to allow of successful surgical relief, simply because we had not then come to look for that accident as frequently as we now do, so was appendicitis of the female overlooked, because its occurence was not thought of.

As long ago as twenty years, it is true, I saw a case of what I

at first thought to be a "pelvic cellulitis" of the right broad ligament, but which, about two weeks later, when I was again called to see the case, proved to be a fecal abscess pointing in the median line between umbilicus and pubes, the diagnosis not being made until the aspirator revealed a feculent discharge.

And again, some twelve years ago I saw a so-called "perityphlitic abscess" in a girl of fourteen, which broke into the intestine and was discharged per anum on the night preceding the day fixed for the operation. But not seeing any more similar cases in a large private, consulting and hospital practice among women only, these two cases slipped my mind until about five years ago, when a girl of fourteen years was brought to my office with a foul-smelling abscess discharging through the right vaginal wall, which, on probing, was found to extend up the crest of the right ilium, where the history stated the pain originally began. A short time later two instances of appendical abscess, one complicated by abortion, the other by a small ovarian tumor, occurred in my service at Mt. Sinai Hospital.

None of these cases were then reported by me, as I did not think them of sufficient rarity or interest. When, however, in September, 1894, a case of appendical abscess during the eighth month of pregnancy, which caused the death of the child and premature delivery, was seen by me in consultation, and reported in the *Medical Record* of December 1, 1894, the profession became aroused to the importance of this subject, and since then reports of this accident during pregnancy and labor have appeared in a number of medical journals. One of the most interesting and instructive articles is by Dr. J. W. Thomason, of Huntsville, Texas (*Medical Record*, September 21, 1895), in which he refers to my case of September, 1894, as "now famous in medical literature." I myself have had some additional experience which, with the exception of my most recent cases, will be found related in the *Medical Record* for March 23 and October 26, 1895. In these communications I refer chiefly to the occurrence of appendicitis during pregnancy and

labor, and call attention to four points in the pathology, diagnosis and treatment of the diseases at these times, namely:

1st. The possibility of the recurrence of appendical inflammation, either as a new disease or as a recurrence of a previous attack, at any time during pregnancy, or even during labor itself. Indeed, there is no reason why this should not be the case.

2nd. The induction of abortion or premature labor by the acute appendicitis, either in consequence of local irritation or through the toxic effect on the ovum of the general hyperpyrexia.

3rd. The difficulty of diagnosis to the true nature of the case, especially when the pain in the right iliac region is masked by the natural labor pains, or the attack occurrs after delivery, and the high temperature may be mistaken for that of puerperal septic infection.

4th. The necessity for prompt surgical interference, whether the attack occur during pregnancy or during labor or the puerperal state.

Although in the case reported by me in the *Record* of December 1, 1894, I delayed operation until four days after delivery, as the urgent symptoms abated and there was no immediate danger, I think that in the future I would advise an early operation rather than to take the chances of an intraperitoneal rupture of the abscess. I think the danger of a possible septic puerperal infection from the opened appendical abscess far less serious (since infection can be guarded against by careful antisepsis) than that incurred by the always imminent rupture of the abscess and the resulting general peritonitis. I am aware that a number of cases of appendicitis recover without suppuration and without operation. Dr. Thomason's case was such a one. And I must therefore leave the indication for operative interference to the judgment of the medical attendant in the case. But when the pain in the right iliac fossa is severe, the pulse is rapid and small, and the abdomen tympanitic and tense, [illegible]tter whether the temperature be high or not, I believe the

safest plan is a speedy incision, and evacuation of the pus if there is any, or at least the removal of the appendix. If in addition to the above symptoms there be bilious vomiting, and particularly if there be resistance, dullness, or a well defined swelling in the right iliac fossa, the operation should be at once performed.

If labor is in progress there should be even less delay than usual in operating where an abscess is suspected, since the uterine contractions may mechanically produce contraction on the appendical adhesions and a rupture of the abscess. This seems to have taken place in the case reported by me in the *Record* for October 26, 1895, where there had been a number of previous attacks of pain in the right side several years before and the acute symptoms of the attack in which I saw her came on a few hours after delivery.

The difficulty of diagnosis of appendical abscess, when masked by septic puerperal symptoms, is illustrated by a case which recently came under my observation. On February 20th last I saw, in consultation, a woman who, four days before, had been delivered of triplets in the fifth month of gestation. The physician in attendance told me that he had first seen the case two weeks previously, when she suffered from a purulent diarrhœa (he called it "proctitis"), the cause of which he made no attempt to explain. Ten days after his first visit she miscarried. I found a hectic looking woman with a pulse of 120, a temperature of 101.3°, who complained chiefly of a severe pain in the right hypochondrium, where there was a tenderness on pressure. I suspected hepatitis or perinephritis. The pain and tenderness did not extend down to the crest of the ilium, hence the idea of appendicitis, which for a moment came to me, did not seem well grounded. The uterus was prolapsed and the lacerated and greatly swollen cervix protruded from the vagina; the body of the uterus seemed adherent in the pelvic cavity, and there was a free offensive discharge. At the request of the friend and the physician I had the patient admitted to the hospital, where I at once curetted the uterus, and packed it with

iodoform gauze. Dry cups followed by hot poultices were applied to the right hypochondrium. The bowels were normal. As the condition did not improve two days later, I aspirated in the hepatic and lumbar regions without securing anything. In the lumbar region the needle appeared to enter a large cavity, but no fluid was obtained, because, as was afterwards ascertained, the aspirator was not working. And the following day, by my directions, the house surgeon aspirated again, and after several trials, in the axilliary line between the ninth and tenth ribs, withdrew very offensive pus. On my visit the same afternoon I was informed of this and at once directed the patient to be taken to the operating room. The ninth rib was resected and an enormous abscess opened, evacuated and drained. It was at first thought to be a hepatic abscess, but at the autopsy two days later the pus was found to come from the appendical region, having burrowed its way upward until it became subphrenic. The appendix was inflamed and adherent, but no perforation was detected.

This case recalled to me one seen about two years ago, where a woman whose appendages I had removed for pyosalpinx several years previously was admitted to my service for an obscure pain in the right hypochondrium. Pending the settlement of the diagnosis (for I was in doubt whether it was a gynecological case) after scarcely 48 hours she unexpectedly died, and the autopsy showed a subphrenic abscess which had originated in an appendicitis.

Aside from appendicitis occurring during pregnancy and the parturient state, there should be no more difficulty in diagnosing that disease in the female than in the male, if we only consider that in appendicitis the pain, tenderness and swelling are limited to the spot just above and within the crest of the right ilium, and that ordinarily nothing abnormal can be felt through the vagina. It is only exceptionally that an appendiceal exudate reaches so low down as to be perceptible through the right vaginal roof; and then it might be difficult or impossible to distinguish it from a peri-salpingitis or an adherent pyosalpinx, or

even a true pelvic cellulitis, such as is occasionally met with after abortion or delivery at term. Particularly is this the case if an appendicitis and a peri-salpingitis happen to occur at the same time.

In both diseases appendicitis and peri-salpingo-oopheritis, with or without suppuration, the conditions of pain, temperature, pulse, tympanitis, fecal evacuations, general depression, reflex vomiting, etc., are very similar, and there is scarcely one special sign which would afford us a decided clue in favor of one disease or the other—except the location of the original pain—which in appendicitis is *never* in the pelvic cavity or in close proximity to the uterus. It is not always in the right iliac fossa or at McBurney's point, unfortunately, for often the chief pain is felt in the epigastric region, or at times even in the left iliac fossa, or is spread over the whole abdomen, and is not, therefore, the valuable diagnostic sign which we wish it were. But bimanual vagino-abdominal palpitation does not cause pain in appendicitis, unless in the comparatively rare instances where appendicitis and salpingo-oopheritis co-exist.

It is, therefore, usually easy to differentiate between inflammation of the appendix vermiformis and inflammation of the right tube and ovary if we bear in mind the above distinctive points of each.

In a few rare instances the inflamed appendix has been formed on the left side, and such cases are liable to mislead even the most practiced diagnostician. So far as the location of the abscess is concerned, when the original exudate has broken down, it is usually found limited to the normal site of the appendix; but at times the pus may burrow upwards or downwards, and then make its appearance in the subphrenic region, as in the two cases above related, or point in the median sub-umbilated line (as in the cases seen by me), or burst through the right vaginal or the anterior rectal wall (one case of each seen by me). In such doubtful cases the true origin of the pus may be suspected only by its somewhat characteristic fetid odor and thin sanio purulent character, which leads the physician to trace the ab-

scess with the probe to the right superior iliac region, and to confirm the diagnosis by a careful recapitulation of the history of the case, which will usually show that the first symptoms of pain and discomfort were experienced in the right iliac fossa.

About a year ago I saw in consultation a young lady who was reported to have had seven attacks of severe pain in the right side, which were supposed to be due to inflammation of the ovary. She had just recovered from the last attack. On examining her under chloroform I found the right ovary normal, but could distinctly feel the enlarged and tortuous appendix adherent at its normal place. Of course its removal in the interval was advised, but not accepted.

Recently I was called to see a young lady of 19, in consultation with a gentleman of unusual ability in gynecological matters. The girl had been seized two days before with severe pain in the abdomen, not localized to any one spot. The physician who had seen her with the regular attendant twenty-four hours later, had suspected a pelvic inflammation and had examined her per vaginam and found the left appendage rather swollen and tender. He therefore attributed the symptoms to acute salpingitis, although the girl was a virgin. As she grew rapidly worse he asked for a consultation with me with a view of deciding as to the advisability of a removal of the inflamed tube.

I found the girl vomiting bilious fluid, pulse 150, temperature 102, abdomen slightly distended, tense and tender at various points, but most decidedly so in the right supra-iliac region. Vaginal examination showed the right appendage normal, the left as the physician had described them; the pain complained of on compressing them bimanually was nothing compared to that experienced on pressure into the right iliac region. And this last pain was almost in the same spot, and that the typical point of appendicitis. There was dulness in that region, but no perceptible tumor.

Judging from these symptoms, particularly from the vomiting, the small rapid pulse, the tension of the abdomen, and

especially from the persistent localized pain in the right iliac region, I decided unhesitatingly in favor of an acute appendicitis, and advised immediate operation, which I performed four hours later, when a distinct swelling could be felt in the right iliac region. The appendix was inflamed and adherent, and the adjacent coils of intestine were matted together; but there was no perforation and no pus. The appendix was removed and the wound packed with gauze. Pulse and temperature were nearly normal twelve hours later, and recovery has been uninterruped.

The practical point in this case was that I did not allow myself to be influenced in favor of the slightly pathological condition of the left appendages to overlook the true nature of the case, and acted accordingly without delay, thereby undoubtedly saving the life of the patient. I should add that the girl told us, after I had made the diagnosis of appendicitis, that two months before she had a similar attack of abdominal pain which subsided after a few days rest and hot fomentations. This statement, of course, confirmed my opinion.

I confess that as a gynecologist of many years experience and therefore, perhaps, prejudiced in favor of my specialty and anxious to give it due prominence whenever possible, I still always remember that a woman has a vermiform appendix as well as a man, and that appendix is liable to the same diseases, which must not be mistaken for inflammatory affections peculiar to her sex. And particularlly will I bear this fact in mind when there is an inflammatory process on the right side of a woman's body between the lines of the diaphragm above and the pelvic floor, below for to both these limits have I seen an appendical abscess extend.

SOME OF THE MISTAKES OF SURGICAL GYNECOLOGY.

T. A. STODDARD, M. D.,
Gynecologist to the Pueblo Hospital,
PUEBLO, COLO.

We are met here in the interests of suffering humanity, and not, as generally supposed by the laity, for our own personal aggrandizement or the furtherance of our own selfish aims.

The subject I have chosen, is one both broad and deep, and if you will excuse me, I will try to avoid the deep, keeping myself confined to the broad, so that I may have sufficient latitude to say what I wish, without getting beyond my depth.

You will pardon me if I appear somewhat dogmatic in what I have to say on this subject, but personal experience and observation in this line of work, has a tendency to either dogmatize or disgust one. We have seen men risk and ruin their reputations, and bring discredit upon our noble profession; we have seen valuable lives lost or rendered miserable or valueless by egotistical attempts at operative interference in unsuitable cases, or by men whose operative skill was in an embryonic state, if it was not entirely absent. Such are the sins of commission. Again, we have seen many cases urgently demanding operative interference, which have been temporized with, treated with opiates, and on "the expectant plan." Such are the sins of omission. We see and hear every day of operations which only serve to laud the skill of the operator, without benefiting the patient. Egotism, ignorance and jealousy are the factors which contribute more than all others to these mistakes to which I will call your attention for a few minutes.

1. It is a mistake to promise too much in the way of results. Very many of the cases which demand operative interference

are so complicated that only the charlatan would dare promise anything but a possible benefit. Take, for instance, some intra-abdominal pathological condition, and before the abdomen is opened, we cannot be positive of the exact condition existing. I have in mind a case to which I was called by a brother practitioner, who informed me that it was a case of acute obstruction of the bowels, due to the patient having swallowed a number of plum stones. The obstruction had been complete for twenty-three days. I opened the abdomen, and found cancer of the sigmoid flexure, involving at least six inches of bowel. I performed colotomy at once, thus saving the patient for a time, but she eventually succumbed to the malignant growth. Here was a case that, according to the family physician, gave no history of any previous trouble, and yet there was incurable disease. I would have made a sad mistake if I had promised a cure. And yet, many good men are making this mistake constantly, to their own personal and professional injury; and to the discredit of the profession at large.

2. It is a mistake to ask a patient to allow you to operate in preference to some one else. This is an evidence of want of self-respect, and even if the results are satisfactory, we are likely to receive contumely. Again, the case may be worse than we anticipated, and we are not able to give the results we promised—for the first two mistakes go together—and then I can conceive of no more ridiculous and painful a position than that occupied by the operator. If our patient needs an operation, let us tell her so, and, if need be, urge her to have it done, but don't let us ask her to give us the preference.

3. It is a mistake to do a major operation when a minor one will serve the purpose as well, or better.

Plastic work in the vagina has, of late, been much neglected by the rank and file of the profession, as well as by those who are considered leaders. This is, no doubt, due in a large measure to the desire on the part of operators to have a large list of major operations. Much can be done by judicious plastic work to correct displacements of uterus, bladder and urethra, and to

overcome many of the painful pelvic symptoms which are erroneously thought to be due to diseased viscera. The modified barbarous Alexander's operation has fortunately, to a great extent, been relegated to "the things that were," except by a few immortals, who have gone wild over the "vaginal route." Hysterrhaphy will doubtless soon occupy a still more obscure position, after it has done much to damage surgical work in this field. Hysterectomy is done when operations of much less magnitude would serve the purpose as well so far as the patient is concerned. The abdomen is being opened for simple displacements, which, under proper treatment, would require no operation. We seem to have become madly insane in this matter of major operations, and the sooner a halt is called the better for humanity.

4. It is a mistake to think that any particular method of operating is the only correct one in all cases. Take, for example, the different operations for repair of a lacerated perineum. We have Werth's, Hegar's and Hildebrandt's, Goodell's, Stude's and Voos', Simon's, Bichoff's and Tait's, and a host of others too numerous to mention. Now, the operator who will blindly follow any of these methods without a conception of the eternal fitness of things, has no right to be allowed to attempt such work. In all the field of surgery there is no department which demands greater originality than this. There are scarcely two cases alike, and, therefore, few cases can be successfully operated upon by following any set rule of stitch and suture. Have we not all been more or less disgusted with some of our teachers of and writers in surgery? One will say that the Tait operation is the proper one, and will explain fully how it is done, scarcely mention any other method, and thus leave the student under the impression that he has received the "*summum bonum*" of the method of repair of all cases of lacerated perineum. Some of these so-called methods are absolutely pernicious and misleading, and show only a desire on the part of the originator to get his name before the public, and to narrow the opening

into the vagina, both of which are accomplished with great *eclat.*

The choice of methods for removal of the uterus or its appendages must be left to the operator in each particular case, and the dictum of the advocates of this, that, or the other method must be ignored entirely, except in an elective way, and the manner of operating, as well as the line of after treatment of the stump of the patient, must be decided by the operator in relation to the existing pathologic condition, and the peculiarities of the case.

Every case demands careful study and intelligent use of anatomical and surgical knowledge and principles, without regard to Prof. A.'s or Dr. B.'s method. The man who has no mechanical ability, but must do everything by rule of "thumb," has no more right to attempt operations of this character than the quack who has no knowledge of anatomy.

5. It is a mistake to sacrifice blood and tissue for the sake of rapidity.

Prolonged anæsthesia is certainly to be deprecated, and shock to be guarded against, but to my mind shock is not produced by loss of blood, or by reason of lengthy operations. Shock, I firmly believe, is a purely reflex condition, or rather a result of reflex action, and may be produced by injury to the solar plexus or not. If the anæsthetic is carefully administered until reflexes are completely quiescent and no work done while these are active, and care exercised in handling the abdominal viscera, I believe that this bugbear of the surgeon will cause him less concern in the future than in the past. Get the patient in the best possible condition, and then take time to do the operation *well.* If an operation is not done as well as it can be done, it is not done well enough, and nothing will excuse a man in doing an operation half way right, not even a want of time or fear of shock. Be sure and secure all bleeding vessels, for there is no doubt that many deaths attributed to shock have really been due to loss of blood. Some years ago, among my first operations, was one where I removed a large ovarian cyst which had

many adhesions. I secured all bleeding points and left the patient in charge of the house surgeon, whom I asked to notify me if any unfavorable symptoms arose. About two hours later I was telephoned that shock was profound. I went in all haste, opened up the wound and found severe hemorrhage, due to slipping of a ligature. I secured the vessel, which was in the omentum, again closed up the abdomen, and the patient made a slow but uneventful recovery. This taught me a lesson which I never forgot.

6. It is a mistake for any physician to attempt major operations unless he has thoroughly prepared himself, by work of a similar character on the dead. At the present time it seems to be a fad for every one, general practitioners and all, to attempt any or all the work which has come to be considered special.

This is brought about by two causes:—(a) many place themselves before the public as specialists, without the necessary qualifications, and are therefore no more fitted for the work than the general practitioner. This is not as it should be, and there is as much need of protecting the public against such men as against the veriest quack, who goes from town to town. Some begin the practice of a specialty as soon as they have graduated, without ever having done any general practice whatever. The men who do this are dishonest with their patrons and discourteous to their medical brethren. (b) The second cause is that men who have prepared themselves for special work still do general practice, and thus insult their *confreres* in general practice by tacitly saying, "I am as good a general practitioner as you, and I can do special work better." Now, while there may be some show of truth in this, still it is insulting, and I contend that the man who places himself before the public as a specialist in certain lines, should give up general practice for his patients' sake and for his brother practitioners' sake. It is hardly reasonable to expect the general practitioner to send his special cases to the specialist who does general practice as well. For this cause operations are attempted by incompetent men, or operations are delayed until too late, and

thus an injury is done to all. October last I was called in consultation by a general practitioner to see a lady who was supposed to have had a miscarriage a few days before. The doctor had been in attendance four or five days, and the day on which I was called he had curetted the uterus for supposed retained placenta. Shortly after the curettment the patient began sinking, and eight hours after, I was called, found the patient in extremis, and every evidence of collapse from hemorrhage. There was dullness over the lower part of the abdomen. I diagnosed ruptured tubal pregnancy, and refused to operate, first, because the patient was too far gone, and second, because the family physician did not agree with me in the diagnosis. The patient lived only a few hours, and I was fortunate enough to secure an autopsy, which proved the correctness of my diagnosis. The placenta was located toward the outer end of the tube, and here the tube had ruptured, allowing the blood to escape into the abdominal cavity. The fœtus was apparently well formed and about the fourth month. The history of this case should have led any one to suspect the true state of affairs, and had I been called in before the curettage, this life might have been saved. There seems to exist in the mind of the general practitioner an antipathy for all specialists. There is no doubt that if the general practitioner were endowed with the skill of a Michael Angelo, he would paint the gynecologist knee deep in the almond-shaped ovulating glands of the human female, a scalpel in one hand and a ligature carrier in the other, surrounded by blear-eyed assistants, whose desire for gore and gland is only exceeded in intensity by that of their principal. Possessing this spirit I have seen men go to operations whose nerve consisted of corn-juice and ignorance, and dared to lift over the bared abdomen that instrument so potent for good, but equally potent for harm, and I have trembled for the profession. We cannot get by reading alone what is necessary to render us capable of doing with success and in the best possible manner any operation, however simple.

7. It is a mistake to attribute to electricity the virtues many claim for it. The weight of opinion the world over is that the use of electricity in the treatment of fibromata and myomata has done little good and much harm, and that, too, when used by men who thoroughly understand its therapeutic application; but when we consider the many who use this agency without any knowledge of its use or abuse, then, and only then, will it appear before us in its proper light. True, there are some men of ability who claim for this agency some excellent if not wonderful results; but against these are arrayed a long list of the most eminent men who ever graced the profession of medicine, men of honor, men of science, and men of research, who, after having given this a fair trial, have discarded it as useless, if not positively harmful. When a fibroid has reached such a size as to cause symptoms, the only proper course to pursue is to remove it by surgical means, and not subject the patient to the dangers of sepsis and delay. They tell us, certainly, of numerous cases of cure by electricity, but so have we heard of cancers cured by Christian Science, and "falling sickness" by faith cure.

It rests with us as specialists to set the example of being careful and conservative. Many misconstrue the word conservative. It is not conservative to perform a hysterectomy when a plastic vaginal operation will do better; neither is it conservatism to treat a pus tube or an abscess of the ovary by local application alone. It is not conservative to do Alexander's operation, when a curettment, in nine cases out of ten, will serve the same purpose; neither is it conservatism to apply for months the electric current to a bleeding fibroid. It is not conservative to curette the uterus for every case of painful menstruation; neither is it conservative to give a tonic, and advise change of air for a case of deep-seated purulent endo-metritis.

Let us be conservative, but let us also be honest with our patients, honest with ourselves, and honest with those who learn from us or are taught by us. Let the teachers in our colleges be chosen because of their fitness, and not because of any polit-

ical *pull.* Let them be men, sober, painstaking and broad-minded, slow to follow fads, and deeply grounded in the humanitarian principles of the great profession of medicine, and then we may expect from the rising generation of physicians more men of mentality, and fewer of those who grasp at every fad which is foisted upon the profession, and who act as barnacles to impede our progress.

A CASE OF PLURAL ECTOPIC GESTATION.—RUPTURE—OPERATION—RECOVERY;—SUBSEQUENT UTERINE PREGNANCY.

P. MICHINARD, M. D.,

Professor of Obstetrics and Gynecology, at New Orleans Polyclinic.

GENTLEMEN—This case presents the following points of interest:

1. At the time of rupture the tube contained two fœtuses, each with its individual placenta.
2. One fœtus was small (two and a half inches long) and flattened.
3. The other fœtus was normal in appearance and about thirteen inches long.
4. At the time of the rupture the patient had not menstruated for nearly nine months.
5. The patient had never any symptom that indicated disease of the uterus or of the appendages.
6. The tube on the opposite side was healthy in appearance.
7. The patient is now in the fourth month of uterine pregnancy, and does not present any sign of tubal or ovarian disease.

CASE.

On the morning of September 12, 1895, Drs. P. H. Le Blanc and A. Weber requested me to see with them the patient, whose history is as follows:

An otherwise healthy woman, 23 years of age, was delivered of a healthy child in January, 1894.

Prior to and subsequent to this delivery, she was free from any symptoms of a gynecologic nature.

She did not menstruate until December 25, 1895. This was the only menstrul flow since her delivery. It was not until June that she noticed any change in her condition, and then she observed that the abdomen was enlarged and that the extremities were œdematous.

On September 10th, she was seen by Drs. Weber and Le Blanc, who after careful examination, diagnosed her true condition.

During the night she experienced some uneasiness in the hypogastric region, but the following day was well enough to attend to her household duties.

At about one o'clock in the morning of September 12th, she was awakened from a profound sleep by a sharp agonizing pain in the lower part of abdomen. Her husband narrates that almost immediately afterward she fainted and became bathed in a profuse sweat. Some household remedy being applied, she regained consciousness, but soon swooned again. Her physicians were summoned, and they, appreciating the correct state of affairs, requested my presence.

I found the patient somewhat recovered from the syncope, her pulse still rapid and small, and her surface covered with perspiration. A careful, but gently conducted examination discovered the uterus slightly enlarged, pushed to the right, and the entire pelvic cavity filled with a boggy mass, the mass extending into the abdominal space.

The diagnosis of ruptured ectopic pregnancy was concurred in, and immediate operation urged.

I had her removed to the Charity Hospital in one of its comfortable ambulances, and immediately on her arrival had her prepared for operation.

Owing to extreme weakness, a hypodermic of one-tenth grain strychnia sulphate and ten drops tinct. digitalis was administered. The median cephalic vein was opened and a little over a half gallon of normal (six-tenths of one per cent.) salt solution at a temperature of 100° F. was infused. This brought the pulse rate down from 160 to 110 per minute.

OPERATION.

At this I was assisted by the gentlemen named, and by Drs. Bloom and Parker of the hospital.

A large incision was made in the median line of the abdominal wall until the peritoneun was reached. Beneath this membrane the dark clotted blood was seen. The moment the peritoneum was cut a foot of the larger fœtus presented itself, together with clotted and liquid blood.

The fœtus was quickly removed, the cord clamped at two points by assistants and cut between the clamps. No time was lost removing blood clots because the hemorrhage was appalling.

A search with the hand was at once made for the ruptured tube, which once found was embraced with the fingers and thumb at its origin from the uterus. The bleeding thus controlled, the cavity was partially cleared of clots, etc., when the tube was ligated and removed with the ovary. The abdominal and pelvic cavities were then carefully and thoroughly mopped dry with dry sterilized gauze. The wound was closed with one row of wire sutures. No drainage was used. The other tube and ovary were normal in appearance, and left in place.

On examining the sac the second and smaller fœtus was found with its individual cord and placenta.

The patient made an uneventful recovery, leaving the hospital September 29th, seventeen days after operation.

Four days after the operation the breast became swollen and milk made its appearance.

The flow of milk, which became somewhat abundant, disappeared at about the time she left the hospital.

A few days ago (April 9, 1896), the lady called at my office to inform me that she had menstruated in October, November and December, but not since.

On examination, I discovered the vaginal mucous membrane slightly blue, the os uteri soft, and the body enlarged, the fundus projecting above the pubis. In other words, there is now

a uterine pregnancy of four months duration. The fallopian tube is not enlarged.

DISCUSSION OF CASE.

The first point of interest in this case is that which relates to the number of pregnancies existing in the same tube.

While it is true that plural gestation in one tube has been observed I cannot find more than three authentic cases reported in the United States.

The second, third and fourth points of interest refer to the difference in size and condition of the fœtuses—one being large and well-formed, the other small and flattened—and to the duration of the amenorrhœa.

The question is whether both fœtuses were the result of a single conception or of two conceptions occurring at different times. I believe they were the result of a single conception, the small shrivelled fœtus having been flattened by its growing sister, it becoming a *fœtus papyraceus*.

With the exception of the one reported by H. C. Coe in the *American Journal Obstetrics*, June, 1893, I cannot find any authentic case of repeated gestation in the same tube. Doctor Coe's case was certainly peculiar. He believes that some time after the first tubal pregnancy occurred there was a migration of an impregnated ovule from the opposite tube across the uterus, through its cavity, into the already pregnant tube. The history and specimen of his case seem to justify such a theory.

The case I report to you had not menstruated for nine months. The embryo is of the size found at the third month, and the larger is of the size of a six months' fœtus. I beg to leave the decision of this point to you.

Features five and six are interesting, because the patient had never any sign of disease of the pelvic organs, and because the opposite tube was healthy.

Recent and more careful observations would lead us to understand that in the majority of cases of ectopic pregnancy the opposite tube is healthy. I believe that tubal pregnancy occurs

in either healthy tubes or tubes which are only slightly diseased. I cannot well understand how pregnancy can occur in a badly diseased tube. I have certainly treated, in both hospital and private practice, many hundreds of cases of salpingitis, and my confreres at the Charity hospital have had a similar experience; yet I doubt whether we have together seen more than a dozen clear cases of ectopic pregnancy in half a dozen years. I do not remember having seen more than three non-disputable cases in the past three years. I do not include hæmato-salpinx in my estimate, because I do not believe, as some do, that every case of hæmato-salpinx is one of tubal gestation. Of the hundreds of cases of salpingitis which I have seen a very small percentage were unilateral.

My experience, then, has not been such as to make me expect to find ectopic pregnancy among diseased tubes.

I hope, gentlemen, that my case, while not unique, is one sufficiently uncommon to justify my reporting it to you.

THREE CASES OF CHOLECYSTOTOMY.

A. W. FLY, M. D.,

GALVESTON.

CASE 1.—In the early part of February, 1896, Miss T. was brought from an adjoining county on a stretcher to consult me. Complained of constant nausea, and vomited all the time when not profoundly narcotized or under the influence of an anesthetic. There was severe pain over the gastric and hepatic regions. She had paroxysms of acute pain, at which times she said she could feel gall stones pass. This condition had lasted some time, in my opinion the result of an injury that occurred some months previous.

On February 9th, assisted by Drs. Fisher, Gary, Hulen and Pabst, I made an incision from the sternum to the umbilicus, six and one-half inches in length, and another incision at a right angle, three inches long, through the right rectus muscle, passed a needle through each angle of the incision (armed with silk), thus enabling my assistant to keep the wound open to view. I then run a needle armed with strong silk through the gall bladder, that was easily lifted to a position that was convenient to handle. I made a vertical incision into it, found it four or five times larger than normal, and studded with inspissated bile that could not pass into the bowel; cleaned and washed out freely, stitched the gall bladder with continuous catgut sutures and the muscles with silk. The liver presented several bruised spots, the result of the external injury. Two ribs had been broken. Patient had several rises of temperature, preceded by chilly sensations. Their periodical recurrence caused me to believe they were of malarial origin. A few doses of quinine confirmed the belief. Patient made a good recovery, went home one month from day of operation, and is now perfectly well.

CASE 2.—Dr. B., from Victoria, Texas, consulted me about the middle of March. Complained of pain in gastric and hepatic regions. Had lost 30 pounds of flesh in three months. Had well marked jaundice, and a well defined indurated enlargement over the pylorus, suggesting cancer. I made the same incision as in case one, and found the gall bladder filled with two gall stones. Closed wound with same sutures and dressing as case one. A small section from the enlarged pylorus, under the microscope, revealed a cancerous condition. Patient went home on the twenty-second day after the operation, feeling moderately well, but his general condition fully justified a prognosis that his earthly days would be short.

CASE 3.—On April 7th, was called to a neighboring town for the purpose of operating. Found patient vomiting incessantly, suffering violent pain in the stomach and liver. Pulse could not be counted. Was bathed in cold, clammy perspiration, in fact, was in a moribund condition. For that reason did not use the knife, being as much opposed to the free and unlimited cutting of human flesh in such conditions of affairs as I am 16 to 1 financially, for the reason that operations upon people who are virtually dead does no good, and frequently prevents others from availing themselves of surgical aid in time to obtain permanent relief. Every physician present concurred in the possible diagnosis of gall stone with rupture. A post-mortem examination shortly after death showed the cause of death to be the rupture of a small gall stone into the peritoneal cavity.

DISCUSSION.

DR. W. M. YATER, of Grandview: Mr. Chairman, I don't know that I am prepared from experience to edify this body upon the cases reported. I have seen extreme cases of bilious colic where I was sure at the time there was obstruction. However, there does occur to my mind at this moment a case which beautifully illustrates what should have been done earlier in the case. I assisted a couple of my brother physicians in holding a post-mortem on a young man whose symptoms

were quite obscure for a length of time, pointing at one time to pneumonia of the right lung, and again of acute hepatitis, but running over a period of two months, at times able to be up and then down again, with hectic fever, and then succumbing. At the autopsy we made a careful incision of the skin, turning it back section by section. When the skin was removed from all over the abdomen it was impossible to separate the abdominal adhesions; it was all one mass; but when we had removed a large cyst, which proved to be an enlarged gall bladder, which we measured, (and it is no exaggeration to say it held over a gallon), we found an obstruction in the common bile duct, close to its entrance into the duodenum. The bile had accumulated for the last two months, and dammed back into the liver until that organ was two or three times its natural size. On breaking into the liver it looked like honeycomb; it was dilated and full of bile. The patient was yellow—he was more than yellow; he was dark orange for a number of weeks before he died.

DR. A. P. BROWN, of Fort Worth: I would like to ask the doctor to what he ascribed (other than the trouble in the gall bladder) the rapid decrease in weight. Was there diarrhœa?

DR. FLY: No sir, I think it was due to cancerous condition of the stomach. Of course his appetite had been impaired for some time. His circulation was imperfect. He had been living upon sterilized and predigested milk and other light food for some time and couldn't eat to his full capacity, he had abstained from eating solid food as much as possible. The cancer was advancing, and a microscopic examination showed there was scirrhus of the pylorus.

[This paper should have appeared in the Section on Surgery, but was omitted through mistake of the printer.]

SECTION ON STATE MEDICINE AND PUBLIC HYGIENE.

STATE CARE OF INSANE, EPILEPTICS, INEBRIATES AND HABITUES OF NARCOTICS.

F. S. WHITE, M. D.

TERRELL.

In accordance with a resolution passed by the Terrell Medical Society in February last, two other members and myself were appointed a committee to carry out the object of this resolution, —that is, to attempt to enlist the aid of other local medical societies and individual members of the profession throughout the State to have a law passed regulating the practice of medicine, and to induce the legislature to make provision for the treatment and care of all her epileptic and insane population, together with the inebriates and habitues of narcotics.

I do not propose to discuss medical legislation, but to beg your attention for a few minutes to the consideration of State care of the defective classes mentioned.

These unfortunate people, in the strict construction of the law, are wards of the State, and they should be so recognized and provided for. It is in only the rarest instances that they are responsible for their deplorable condition, which might be termed the "physiological result of a pathological ancestry."

The cause of these examples of a perverted constitution dates back several generations. Environment and education, to be sure, have somewhat to do with retarding or favoring the development and manifestation of an inherited unstable organiza-

tion, and determine to a considerable extent the plane the individual will occupy through life.

The care and treatment of the insane is one of the most important factors connected with the administration of any form of civilized government. In the days of Galen and Hypocrates plans and methods of rational treatment of this class were in vogue.

The temple of Saturn in Egypt, and of Asclepia in Greece, were resorted to by lunatics, and they received treatment of a remedial nature. This condition, however, did not continue long, and during the middle ages seems to have been entirely abandoned, and the inhuman and barbaric treatment substituted, which continued until about the year 1750, when the condition of the insane attracted some public attention, resulting in the incarceration of large numbers in asylums under the control of private individuals, where the unfortunate lunatic was immured in dark and loathsome cells and dungeons, flogged and half starved, and in many instances put to death in the most pittiless and cruel manner.

Be it said but to the disparagement and disgrace of the boasted civilization of the nineteenth century, that this condition continued, and many of these inhuman abuses survived until the year 1850. The name of Pinel in France, and of Wm. Tuke, a modest Quaker, in this country, are indissolubly connected with the history of the humane treatment of the insane. Since their time the work to which they gave such an impetus has been gradually spreading and growing, until to-day the cruel treatment of the insane is almost unknown, and is not sanctioned or authorized by any country into which the light of civilization and progress has penetrated.

There was a time when our country followed in this philanthropic work, but it is now *in the lead*, and in every State and territory of the Union some provision is made for the treatment and care of our unfortunate fellowmen who fall mentally crippled by the wayside.

It is an indisputable proposition that it is the duty of the gov-

ernment to assume the care and control of these helpless creatures—stricken by the merciless hand of disease, deserted by friends, disowned by relatives, excluded from society,—"An exile from hope and from home, a fugitive chased by despair," they have no place of refuge, mindless human hulks, "dead to the love and to the joys and pain of life, oblivious of the past and unconcerned for the future, stirred by no ambition, capable of no effort, and unmoved by any motive,"—like Byron's bark—

"Thrown when the war of winds is o'er, a solemn wreck on fortune's shore,
'Mid sullen calm and silent bay unseen to drop by dull decay."

From a moral standpoint there can be no question as to the State's responsibility to care for her defective population. They are human, and are our fellow-beings, rendered helpless by disease. Many of them have at one time been prosperous citizens, who contributed their share to the support and maintenance of the government, and now in their time of greatest need the State should extend a helping hand, and if possible save them from themselves.

From a remedial standpoint there are still stronger reasons for the State assuming control of them.

Insanity is a very curable disease if treated properly, and treated early. Statistics vary some on this point, but it may be safely stated that from 75 to 80 per cent. will recover if placed under proper control and surroundings the most conducive to improvement, and given the advantages of the very best scientific treatment within the first week or ten days of the mental breakdown.

On the other hand, if forced to remain in filthy jails and prisons for months, then taken to an overcrowded asylum and herded together like so many sheep, and treated en masse, very few will make a complete recovery.

Their minds may be so patched up that they can be returned to their homes (and swell the recovery list of the asylum), there to sow the seeds of insanity for future generations to reap. Please pardon a slight diversion, but I want to step aside and

say that this is the most active and prolific cause of the increase of insanity about which so many papers are so learnedly written. Religion, politics, the great clamor and rush made by our American people for sordid gain, can in no wise compare with a half restored mind and a strong physical body in the propagation of insanity, and in fixing upon unborn progeny an unstable nervous organization which will go to pieces when the slightest storms of life assail it. While I am off the track, and in this connection I want to say that I am an advocate of unsexing certain classes of the insane. Haven't the time to discuss this here, but hope to do so on some other occasion.

The asylums should furnish ample room for the immediate admission and continued detention of every case unless a cure be established. Under the conditions existing in this State at present, only a small proportion of the insane can ever be admitted into the asylums, and then such a press is made for room for others that many are sent out before a cure is completed. They return to their homes in a weakened and disabled mental condition, and attempt again to battle with the world, and to eke out a miserable support for themselves and families—soon break down again, and probably are thrown into jail to remain for months, and until the last hope of recovery is gone, when possibly they are again admitted into the asylum to become a lifetime resident.

From an economical standpoint the arguments are just as convincing that the State should take the care and control of the defective population. If confined in jails or poor houses, or kept by some private party, the cost is paid by the country, and at last comes out of the taxes paid by the people, and amounts to more than if supported in State institutions. I some time ago ascertained this fact by correspondence with a number of sheriffs.

What I have said with special reference to the insane applies with equal force to the unfortunate victims of epilepsy, who, while not strictly classed with the insane, are nevertheless mentally unbalanced, and should all be under State care. They

certainly constitute a most disagreeable, worthless and disturbing element of society. This peculiar affliction renders its victims unfit for citizenship. They are irritable and combative, unable to pursue any occupation continuously, they soon become a charge upon the county in which they live.

If the State were to make ample provision for all these cases, where they could be sent and treated scientifically upon the very inception of the disease, many could be permanently restored. As it is, they are practically excluded from the asylums, and continue to have convulsions and become more and more certainly incurable until, as is too often the case, they commit some crime at which all society is horrified, when they may be admitted to an asylum as a last resort.

The main reason why epilepsy is considered, and is, so incurable as ordinarily encountered, is because very few cases ever receive any rational treatment until the disease is too firmly fixed to ever be eradicated.

Structural changes in the nervous system take place rapidly under the terrible strain placed upon it by the convulsive seizures peculiar to this affliction. The habit becomes a fixed condition, and science stands in helpless awe before these creatures writhing and groaning in the agony of a nervous explosion, and must acknowledge that it has nothing curative to offer.

As I have said on other occasions, I believe that the time will come when this "opprobrium medicorum" will be relieved in a very large per cent. of recent cases.

The first institution for the exclusive employment and care of epileptics was established in France about the middle of the present century, and is still in active operation.

This subject has been agitated to a considerable extent recently in this country, and has resulted in the establishment of colonies or the institution of necessary preliminary measures in the States of Ohio, New York, Pennsylvania, Massachusetts and Maryland. The colony system has been adopted in nearly all of these States.

The unfortunate inebriate and habitue of narcotic drugs is as truly the victim of disease as are the insane or epileptic.

There is a time in the life of all these cases, just as in cases of insanity and epilepsy, when the disease can be cured; with the exception possibly of the confirmed habitue of one or two narcotics, the slaves to poisons can in a very large number be cured, —of course, like all other diseases engrafted upon an unstable nervous organization, it may return, but many cases by proper restraint and treatment can be permanently restored and returned to society, and become useful citizens instead of continuing a living burden and disgrace on relatives and friends. As a rule this class does not possess as defective a nervous organization as does the lunatic or epileptic, and as a consequence treatment offers better results.

Now, gentlemen, this is a big subject, and I have left many phases of it untouched, and I hope a movement will be inaugurated here that will culminate in the State making provisions for all these unfortunate people according to the most modern plan. If you will bear with me for a few more minutes, I desire to briefly describe a system which I believe to be the best and most feasible that could be inaugurated in Texas.

The ideal plan for taking care of all these cases would be to have a separate institution for each class, located in different parts of the State; but this would necessitate the expenditure of a sum of money that it would be impossible under existing conditions for Texas to make for some time yet, and a sum out of proportion to the benefits to accrue.

The plan that I would suggest is such as I have outlined and described several times, and may be familiar to some of you. I advocate this plan because I believe it can be adopted in Texas, and that it will meet all the requirements. I would have but one institution, I might say an institution under one management, but with three distinct departments—one for the insane, one for epileptics and one for inebriates and habitues of narcotics.

There should be a superintendent in charge of the entire in-

stitution, and he should be selected not on account of any political qualifications, but solely on account of his ability, competency and peculiar fitness for the trust. Each one of these departments should be in charge (under the supervision and by the selection of the superintendent) of an assistant physician of superior qualifications. These men should hold their positions during competency and good behavior.

This hospital should be located in one of the most fertile and healthy counties of the State, and not less than 1000 acres of land should belong to it. It should be built on what is termed the cottage system, which is now the accepted plan for all such buildings in all the older States where the experimental stage of providing for the defective population has been passed. The plan is more economical than the old system, is more healthful, and better in every respect; especially is this so in our southern climate.

By proper and efficient management this hospital (for I would call this institution a hospital and not an asylum) could in a few years be made nearly self-sustaining. All kinds of industries could soon be connected with it, all kinds of vegetables and fruits could be produced, and canned for use out of season. Nearly all the work necessary to operate this establishment could be performed by the patients, and under such wholesome influence and environments many would recover their reason who would remain permanently insane if immured in long, regular corridors with the floors shining like polished marble and the walls vieing in whiteness with the driven snow. This immaculate order and cleanliness is a great thing with which to impress the average visitor and asylum committees, but how does it affect the unhappy inmate?

I imagine but were I insane it would be more pleasant and far more conducive to recovery to wander along babbling brooks, inhale the sweet perfume of nature's flowers while my delusions were beguiled away by a delightful serenade from the southern nightingale, and my whole being made to vibrate in unison with animated nature, than to be compelled to sit in a modern asylum

corridor or sitting room day after day, scarcely permitted to move for fear of spoiling the polish on the floor or disarranging some piece of furniture, or perchance marched in regular oder, and at the same hour each day, to the same particular place in a wel kept and regulated park, there to assume my habitual seat. Reforms in this as well as in many other respects must be made before our asylums fully accomplish the object for which they were built and are maintained.

DISCUSSION.

DR. A. N. DENTON, of Austin: I have listened to the paper with great interest. It is a subject which every member of the Association ought to take cognizance of. Although great progress has been made in the matter of the care and treatment of the insane in the last half century, we have not reached yet the stage of perfection. The truth is that now in the state of Texas, I do not think I exaggerate when I say that there are hundreds of the insane incarcerated in jails. This ought not to be in a civilized country. It is one of the first and most important duties of the civilized state to care for the defective population and save them from imprisonment as if they had committed some crime against the state. I regard the paper as exceedingly timely and appropriate. It is incumbent upon the state to make some additional provisions for the care of the insane, and especially for the class the author of the paper mentioned, particularly epileptics who cannot be cared for in connection with other insane. It seems that cases of epilepsy have a demoralizing influence over the insane from other causes. Really as a matter of fact there are a great many epileptics that are not insane, and the violent paroxysms and hideous convulsions which they have in the halls and corridors of our insane asylums produce a demoralizing effect: therefore this class of insane ought to be cared for in separate institutions. There are plenty of them now in this state, enough to fill an ordinary asylum: they might be separated from the rest of our defective population with great advantage to both classes. I know very well that this question from a financial point of view is one of deep interest to the state. It is a fact which we cannot deny that in our budget of expenses for the maintenance of the state government the care of our defective population is perhaps the largest item, with perhaps the single exception of our judicial expenses. But whatever it costs, it is a duty from which we cannot escape; and this Asso-

ciation ought to make some recommendation to the legislature in reference to the care of the class to which the doctor has specially alluded; I mean the epileptics. I am doubtful whether it is the duty of the state to care for another class he mentions, and am inclined to think they ought to be relegated to the care of private institutions, inasmuch as they have brought upon themselves as a rule the troubles with which they are afflicted. I allude to the habitues of alcohol and the different narcotics. I am not inclined to think that it is the duty of the government under the existing circumstances, loaded down as we are, to attempt to build an institution for their special care. That may come later on; but I do think it is the duty of the state to establish a separate institution, and that immediately, for the care of the epileptics, or the epileptic insane. I sincerely thank the doctor for calling the attention of the Association to this subject. It is one in which we should all feel an interest, and I hope that a resolution will be passed by this body memorializing the legislature for an institution for the care of this class of people.

Dr. A. B. GARDNER, of Bellville: I want to thank the doctor and congratulate him on the able paper he has read on this subject. It is a subject to which I think we cannot pay too much attention. It is a question that affects not only the medical man, but it affects us as a whole. It is a matter which is brought before our legislatures at every session, and it is a growing evil. Every few years there has to be an addition made to our asylums. A short time ago we had one asylum at Austin. That was increased, and a few years later there was another built in north Texas, and in the last few years another in San Antonio. These asylums to-day are overrun with patients, and in half of the jails perhaps in the state of Texas there are people who are insane, waiting for room in the asylum. There is something radically wrong, which is causing an undue increase of insane in the state, and I think the doctor has struck the key-note in regard to it. Why is it that there is such an increase? He mentions that it is propagation from the insane. This strikes us as a medical question, but it is one which belongs to medical men, how this thing can be controlled; and here is a field for some great discoverer, for some man to immortalize himself, by suggesting or by putting in operation some mode that will stop the increase of insanity. What is it? It is to stop the propagation of the insane. There is nothing truer than the couplet that,—

"We are the same that our fathers have been;
"We see the same sights that our fathers have seen;
"We view the same stars and see the same sun
"And run the same course that our fathers have run."

From impure seed we cannot expect a pure grain. It is the same with

the human family, and just what we shall do, and how it must be done, is a question for us to decide.

There is another class the doctor has not mentioned, which deserves the care of the state, and that is the weak-minded. We need an asylum or home for the weak-minded of the state. They are scattered all over our country. There is not a county or community in the state of Texas but there are a few who are a care upon their friends families, who should be under the protection of the state. How many crimes are committed, how many murders are done—and some of the most horrible that have darkened our state are traceable to idiots. I am waiting, and have been for years, to hear some man rise in the legislature and propose a bill to establish a home for the care of them. Dr. Denton speaks of the expense. The expense, gentlemen, is a minor consideration. It is the duty of the state to take care of those who are not able to take care of themselves. I know that the expense in that line is heavy, but from a standpoint of humanity it is the duty of the state of Texas to take care of all those who are not able to take care of themselves.

DR. H. L. TATE, of Lindale: To practicalize the remarks that have been made, I make a motion that a committee of five be appointed to memorialize the legislature looking to the carrying out of the objects mentioned in the paper read by Dr. White, Dr. White being made the chairman. I want to say after having made the motion, whether it is seconded or not, that our profession stands with the state, or the citizenship of the state, as the conservator of public health to a very great extent. We, in our avocations, in our chosen life work, are thrown day by day, month by month, and year after year, with these unfortunates; and we can see and realize the evil effects upon them and upon society, and the total inadequacy of individual effort to relieve the distressed conditions in which they are placed and better possibly than the average legislator of our state. Of course I recognize that the state of Texas has done wonders in the care of its defective and criminal population in the last few years. I feel sure that the great heart of the citizenship of this state is in the right place when it comes to a question of duties along the lines of benevolence or practical hygiene and charity, if you please, to these defectives. Some years ago when I came to the state, we had a little bit of asylum at Austin, that could hardly hold a baker's dozen of these unfortunate lunatics, yet as Dr. Denton has so ably expressed it, we have seen that system grow into one of the most magnificent systems that can be seen in any state in the Union. A few years ago we only had a small penitentiary at Huntsville to care for those that had violated the criminal laws of the state, but we see another beneficent act of the state in that

to-day we have a reformatory at Gatesville for the care of those unfortunate youths who have committed an offense against the penal laws before they had arrived at the years of maturity. Now I say that it is our duty, occupying the position that we do as conservators of the public health, and it is becoming in us, to memorialize our state legislature along the lines this paper indicates to us. We know the condition of these men, and we know in all the length and breadth of the state everywhere they are found. And in addition thereto, while memorializing them to care for the epileptics, memorialize them to broaden and extend the system of caring for the insane until there will not be an insane person in the state of Texas that will not have an asylum. They are entitled to it, gentlemen, and the principles of the Christian religion, that great civilizing influence that has been so potent throughout this country for so many years, will so influence them that they will heed a memorial from this institution and act favorably thereon.

DR. WHITE: I do not believe I have anything to add, except I might state that the experience of anyone in a lunatic asylum will demonstrate the fact that heredity is the most prolific cause of insanity. In a large majority of cases, if properly traced, you can trace back epilepsy, insanity, idiocy and the like, to a defective ancestry. There is another thing: There are probably to-day in the state of Texas between a thousand and fifteen hundred insane that are outside of the asylum. They are lying in dungeons, in jails and poor-houses, kept by private parties, a great many of them, ill clad and poorly provided for. All these cases should be taken care of by the state. If it is the duty of the state to take care of a part of them, it devolves upon the state to take care of the balance, and as I said in the paper, it is more economical to take care of them in institutions of the state than in private institutions, jails and poor houses. I do not include victims of alcoholism in that number.

DR. E. D. CAPPS, of Fort Worth: In regard to the establishment of an asylum or colony for the State care of epileptics, it seems to me that it would meet the approval of every medical man. We say, "Why is it that our asylums are continually filled with insane, and still there is a demand for more room?" I believe that it cannot be controverted that insanity is largely the result of an abnormal nervous development. We take the epileptic, and in some of the milder forms, in which it begins by the patient having one attack, and goes on then for two or three years before having another. A physician is called to see him at the first attack, perhaps gives a favorable prognosis, or more generally states that the condition is incurable, and as a result, valuable time is lost in the treatment. Epilepsy has long been con-

sidered incurable, but since medical men have begun to study the brain and nervous system just as they study the other portions of the body, and do not look at it as being a supernatural matter, that some higher power has control of the brain, they begin to understand better how to treat these cases, and how to prevent their recurrence. It is quite common to look upon an epileptic as being in a lower stratum: we seem to have an abhorrence for them, and an insane person is regarded the same way. We wouldn't think of having the feeling about a person that has a broken arm, and yet there is no difference except one is an affection of the brain, and the other is a disease of the body. If we could take these milder cases of epilepsy and colonize them, and thereby prevent their procreating, then persons with that tendency would be stopped from begetting their own kind, and we would at least cut off one point of supply for the insane asylum. It is a well known fact that with an epileptic of the milder type, if he is a man of some intelligence, it is only a question of time until he begins to recognize it. He has reason still left. He sees that he is different from other men. He becomes morose or excitable. He wants to keep away from everybody else; avoids his friends, avoids going out into society, and as a consequence the diseased brain gets worse, and finally he reaches the last stage, that of insanity.

Now, I do not believe I would be far wrong in stating that a great many of the inmates of our asylums have had ancestors who have had either epilepsy or insanity in the family. We all know it is an hereditary tendency. We resemble our parents, our forefathers, in our physical make-up, and why not in our mental make-up, in our nervous system, in our brain? Then if we can stop the procreation, then we stop the epileptic: we stop the insanity, that is to a certain extent. Of course I recognize the fact that there are a great many cases of insanity where it if not a functional disease, but an organic change of brain matter may produce insanity. Of course that class of insane will never be done away with, because we are always open to our enemy the microbe, and he is liable to get at our brains as well as any other portion, although it is well protected. If this colony could be organized and prevent the continual procreation of epileptics, and furthermore, if the epileptics were properly treated, great good would be accomplished. A great many of the cases have one attack: it is frequently not brought to the mind of the individual that he will in all probability have others, and he goes along for two or three years without treatment. By that time the attacks succeed each other so fast that changes are made in the nervous system, and consequently, no matter what the treatment, we cannot eradicate this abnormal condition: while if we recognize the fact that the large majority, or a

great many, of the cases of epilepsy can be relieved, that there is some cause back there that can be removed, we could at least save many persons and a great many families from being thrown into a state of despondency by seeing one of their number or offspring in so pitiful a condition.

MEDICAL EDUCATION—ITS EFFECTS AND PERVERSIONS.

J. ALOYSIUS MULLEN, M. D.,

HOUSTON.

Education, according to Gladstone's definition, is "man-making." The same proposition applied to medicine would be interpreted as meaning medical education is doctor-making; and this process to be eminently successful in its results must be conducted according to the principles underlying the system of primary education. It must be, as it were, the continuation of the latter after it has passed through the various stages of the primary, secondary, high-school and collegiate courses; in other words, it should begin when the intellect of the young adult will have passed through its various developmental stages contingent upon the intellectual training of the mind preparatory to beginning the studies of a professional career. This standard of mental training is arrived at in each individual matriculate by the medium of an entrance examination, which of necessity should consist of special branches in education, the satisfactory passage of which should truly represent the educational, moral and intellectual status of the applicant.

As a matter of fact, all medical educators are cognizant that, 1st, there is no universal standard governing the entrance examination in our medical schools: that there is no process or scheme at present in use whose application is ubiquitous. 2nd. That the catalogue assertion of a prescribed entrance examination consisting of specific branches of studies, in many of our schools, is merely a form. Third. That where efforts are made to enforce a compliance to an entrance examination, in a number of schools, the efforts are insincerely weak ones; and made

with the view of surreptitiously maintaining the educational standard of these institutions, and enhancing their yearly income.

Furthermore, as far as the writer is aware, with one exception, there is not a medical examining board or board of health in this country who has stipulated or decreed that the medical institutions in their respective States shall have and conform to a certain specified entrance examination.

"The New York law of 1889, as amended in 1890, requires every student to file with the Regents of the University of the State of New York, a certificate showing either that he possesses the degree of B., or M. A., or M. S., or B., or D. Ph., received by him from a college or university duly authorized to confer the same, or that during or prior to the first year of his medical study within this State he passed an examination conducted under the authority of the Regents of the University of New York State; or by the faculty of a medical school or college entitled to confer the degree of Doctor of Medicine, in accordance with the standard and rules of the said regents, in arithmetic, grammar, geography, orthography, American history, English composition and the elements of natural philosophy, or in their substantial equivalents approved by the said regents, or that he possessed qualifications which the regents considered and accepted as fully equivalent to the above-named qualifications."—Commissioner of Education Report, 1892-93, p. 1621.

"The Regents of the State University of New York have voted to confer the university degree M. D. only after one year's post-graduate study subsequent to receiving the degree of bachelor or doctor of medicine from some registered medical school, and only on candidates who have spent not less than four years' study in accredited medical schools."—*New York Medical Record*, July 20, 1895.

The most important element in medicine, and the one which is to-day eliciting and receiving more attention than any other; the one without any exaggeration whatever, which governs modern

medicine, is prophylaxis; its application is just as essential in medical education as in any other department of medicine.

The sooner this fact is appreciated, and primary application is made of it in medical education, the sooner and higher will the educational standard ascend.

The root of the great evil in our present system of education is this very non-recognition and non-requirement in all the medical schools of this country of a well understood and ubiquitously and permanently established entrance examination.

An examination that shall require the applicant to be possessed of knowledge of such a character that he will be a proper and suitable person to commence his medical education.

Any system, medical education or otherwise, or any effort, which has for its prime object the remedying of the effects of an evil, which evil is still in existence and ever active, must, as a matter of common sense, be intrinsically and radically wrong. It should require no original thought or mental gyrations to grasp this fact. And still it is just the system which we of today are utilizing in our sincere and earnest efforts to raise the standard of medical education. The desire is laudable, but the system is applied to the termination of a medical education and not at or before its incipiency; the latter application must be the only plausible one.

State medical examining boards, the outcome of the most praiseworthy and conservative efforts of the medical profession, have marked an epoch in the history of medicine which will record the wholesome influence so rife and active to advance the interests of medical education, and place it upon a standard which shall be synonymous with perfection.

There is one State of the forty-nine States in which there are no legal requirements for the practice of medicine; of the whole number, thirty-five States and Territories have either boards of medical examiners or boards of health, who license the practice of medicine; in seventeen States the boards do not recognize the right of a diploma from any medical school to confer the privilege to practice; in eighteen States the boards rule by the

phrase "a college in good standing;" in thirteen States the possession of a diploma is considered a standard of sufficient possessor's qualifications to confer the right to practice medicine; and in one State (New Hampshire) only, there are no legal requirements whatever.

In the seventeen States in which a diploma from any medical school is not recognized, it would seem by the very passage of these laws that neither the entrance examination, course or length of study, nor the excellence of the final examination, were considered up to the grade which guided the framers of the law, or the gentlemen now composing the board.

The Medical Act Law, for the creation of an examining board, was originally the idea of medical educators, and principally through their untiring efforts and educational zeal, was put upon the statute books of forty-nine States and Territories as a law in a more or less incomplete condition.

Now, if this is a fact, it is quite singular, and at the same time it becomes an evidence of exceedingly undiscerning judgment on the part of the gentlemen who framed the law and those now composing the said board, and who were then in a position to recognize and appreciate the defects of medical education in their respective States and Territories, and whose influence and energy were directed with the view of raising the medical standard by compelling all recent graduates, from whatever schools, to undergo an examination, the successful passage of which granted them the right to practice medicine.

I say it is, indeed, singular that all their efforts should have been directed to correcting the pernicious results of an educational system whose first beginning is so inconsistently wrong in that it requires no American standard of entrance examination, no common gateway through which applicants must pass in mental parade of their scholastic attainments; there are no common scales in which the qualifications of matriculants are weighed, hence medical educators are dealing with an unknown quantity, the developmental results of which must always be problematical. The qualities of the soil (teaching) are undoubt-

edly understood, but the seed of medical education, which is planted every fall, may fructify and grow into anything from a cabbage to a S. Weir Mitchell.

How much more gratifying it would be to the friend of medical education, and what a tremendous leap the medical standard would take, if instead of "locking the stable door after the horse had been stolen," the boards would individually and collectively agree upon and enforce a universal standard entrance examination in *all* the medical schools of this country, to consist of a standard of proficiency, a stipulated number of years of study; the arrangement and character of studies taken up and a thorough final examination presided over by *disinterestedness*,—to all of which the medical schools of the country should by law strictly adhere. In this way, and in this way only, is there complete and free application of prophylaxis in medical education; prevention is needed and not palliative measures.

In eighteen States the possession of a diploma confers the right to practice only when the board of health, or other determining body, shall decree the college to be "in good standing." "This has been interpreted as meaning the board, etc., are satisfied with the entrance requirements, the length of the term, character of studies, and number of courses, the final examination, and all other items which aid in fully qualifying the graduate to practice" (Dr. Harris, *loc cit.*), which is the same thing as saying that the board is cognizant of the present defects in our various medical schools, and proclaims itself, for the present at least, incompetent to eradicate them.

Of the thirteen States in which the possession of a diploma constitutes all the requirements entitling its possessor to legally practice medicine, there can be no doubt whatever about the fect of these boards existing in name only. They do not make any effort to differentiate the good from the spurious schools: in fact, they have no standard of excellence, either for the school or for the person holding the diploma, and the advocators of a higher educational standard cannot be greatly surprised if very slow progress is made in securing higher education in the medi-

cal schools of these States, if the boards remain satisfied with the chaotic condition of medical education which exists in their respective States.

Many of the examining and State boards of health have now announced that they will not recognize any institution unless it exacts a full three years course of study, and complies with all other standard requirements (the particular requirements not stated) of education.

It may prove of some interest to note the number of medical colleges in the United States requiring a four, three and two years' course of study. Of the one hundred and forty-four schools there are sixteen of the regular schools with a four years' (or 7 per cent. of the whole number of regular schools) course; ninety-two have a three years' course in use, and four with a two years' course of studies. Of the homeopathic schools fifteen have a three years' course, while two have a four years' (or 8½ per cent. of the whole number of homeopathic schools) standard, and none with a two years' course.

The eclectic school has nine colleges with a three years' course, one with a two years' standard, but none of their schools have a four years' course of study.

The physio-medical fraternity is represented by two colleges, all of which have a three years' course. The remaining number of schools consist of post-graduate and preparatory; the latter not reporting (*loc. cit.*, p. 1990).

It is highly probable that all these schools have a catalogue notice of an entrance examination, but how many of them adhere strictly to their expressed good intentions is a matter which cannot be solved by any statistical evidence; and to illustrate and further substantiate the assertion that entrance examinations in a great majority of schools are not sincerely applied, and exceedingly questionable in some of the number if applied at all. We take pleasure in quoting Dr. George M. Gould (*Philadelphia Medical News*, August 10, 1895, p. 160), who says, "In the orthographic ignorance of the recent graduate there is moreover a bit of hypocrisy to be exposed. Somebody

is uttering false papers, as the lawyers would say, or false sheepskins,—or, in plain English, some one is lying. All our medical colleges are pretending that their preliminary examinations are real, and not tricky shams and frauds. What is the fact? Have genuine preliminary examinations been held in the cases of the men who spell after the manner of those cited herewith?" A list of one hundred and twenty-two words is added, as culled from the recent examination of the Pennsylvania State Board of Medical Examiners, representing the words wrongly spelled by the recent graduates who applied for State licenses.

"Some of these gentlemen," writes the examiner who kindly sent us the list, "were graduated this year by medical colleges in Philadelphia." It is highly improbable that these men could have successfully passed the entrance examinations of these institutions without their orthographic ignorance being detected.

"The medical career is a profession like any other, and the epithet 'liberal' would not be understood in a country where only one thing is desired, namely, to gain with the greatest rapidity the greatest possible amount of money; where the effort is only to perfect one's self in his art in order to get still richer; therefore, of course, no one thinks of erecting high barriers at the entrance to the schools. (Dr. Marcel Baudouin, Paris, France, read at the Columbian Exposition, p. 601.) This is the reason why admission into a medical school is so very easy." Dr. Baudouin has undoubtedly exercised all his perceptive faculties during his tour of inspection among our schools, and he has also drawn unusually accurate deductions, for there should be very little doubt about the many defects of our medical education. The latter are still active, and have remained far from completely corrected ever since medical schools were first organized in this country, the most potent one being a very apparent disinclination on the part of medical educators to establish and insist upon universal and proper entrance examinations.

Very few of the boards of health and medical examining boards have insisted upon or evenly strongly suggested to the medical schools of their respective States the advisability of

conferring and adopting a standard of entrance examination, which shall regulate the admission of prospective students into medical colleges. No high standard of medical education will ever be attained in this country until sincere educators will have thoroughly recognized the importance of this prophylactic measure in medical education.

"The requirements for entrance into the majority of medical schools may be summed up as meaning a 'thorough primary education.'" (Dr. Bonet Maury, University of Paris.)

"Eight universities have established preparatory courses for medical faculties, and I am convinced that the men who lead the medical institutions of the United States are strongly exercised over the system that actually exists in the greatest number of medical schools. They acknowledge the low standard of the medical body of their country and attribute it to the following causes: The great number of medical schools, which is out of all proportion to the number and wants of the population, and excessive shortness of the course."—(Dr. Marcel Baudouin, Paris, France, oc. cip.)

The universality of the absence of a standard entrance examination and the establishment of medical examining boards, has produced a state of affairs little dreamed of in medical circles; it has unconsciously removed the responsibility of the medical schools where so much medical knowledge may be purchased at different prices, and very little thought given as to whether the recent graduate can utilize the information he has acquired, the use of which depends solely upon a state license from the medical examining board, who at the same time have shouldered the responsibility, making many schools little less than institutions where for a stipulated sum three years of medical teaching are handed over the counter, the quantity and quality rarely considered, the degree in seventeen states not considered worth the paper on which it was written. The colleges "no longer license practitioners; they simply educate men to try for a license to practice medicine." (Medical World, April, 1896, p. 27. Dr. R. Stansbury Sutton.)

In the capital of this country a few medical schools have amalgamated the commercial spirit of business enterprise with medical education; they have instituted night courses, especially designed for men employed during the day who in these institutions may procure a diploma which shall entitle them to practice medicine. The writer is entirely ignorant of the grade of their entrance requirements, course or length of studies, but of their existence there can be no doubt.

"*Number and No Need of More Medical Schools.*"

This question which materially affects the integrity of the standard of medical education and the profession has become more than a passingly interesting one to every one sincerely interested in the progress of medicine, and its discussion and ventilation have rendered the pedagogical silhouettes in the background far more illuminative than could possible be produced by the Roentgen rays.

Dr. Marcel Baudouin says, in referring to the birth of medical schools in this country, that "it must be confessed that which prompts the action is the desire of the physicians to add to their title of M. D. that of professors, more than the wish to be useful to their fellow citizen or the future young men of the country. These physicians write out statutes and then apply for a charter which is seldom refused. The Americans possess, therefore, four times as many schools as we (France) do in proportion to the number of inhabitants of the two countries. &c." Loc. cit.

Dr. O. A. Blumenthal (N. Y. Medical Record, Aug., II, 1894, p. 191) states that Prof. Politzer of Vienna was delegated by the Austrian government to investigate the medical schools etc. of the United States. In a lecture on his return, upon the subject, he said: "that the United States with a population of sixty to sixty-five millions had one hundred and forty-eight medical schools, while the total number of medical schools in Austria and Germany together was twenty-nine. Russia with a population of one hundred millions had but nine medical schools. Italy has twenty medical schools. Brazil two schools, while Japan has but one."

The number of schools would seem to indicate that teaching medicine was an exceedingly difficult process, closely akin to the obstetrical formula of podalic version and forceps, but of course the inference is wrong as the American mind mentates too quickly to render the use of this procedure at any time necessary.

"Since the year 1880, fifty medical schools have been chartered in the United States"; four and one-seventh schools a year. (Atlanta Med. & Surg. Journal, Nov. 24, 1894, p. 659.)

The following is a list of medical colleges in this country to date arranged in states according to their numerical strength:

Arkansas 1; Kansas 1; South Carolina 1; New Hampshire 1; Connecticut 1; Vermont 1; Wisconsin 1; Maine 2; North Carolina 2; Alabama 2; Oregon 2; Texas 2; Colorado 3; Louisiana 3; Massachusetts 3; Minnesota 3; Nebraska 3; Virginia 3; Washington, D. C., 4; Kentucky 4; Michigan 4; California 5; Georgia 5; Indiana 5; Iowa 6; Maryland 6; Pennsylvania 7; Tennessee 7; Ohio 12; Illinois 13; New York 14; and Missouri when last heard from this A. M. had seventeen colleges, almost twice as many as the empire of Russia, making in all one hundred and forty-four schools in this country.

The efforts and expressions of Dr. Jerome Cochran of Montgomery, Alabama, in an attempt to prevent the enterprising creators of a medical college in Birmingham from using his name without his knowledge or permission to further the success of the embryo institution, provoked Dr. George T. Shrady in an editorial to use the following commendable words: "Well and truthfully said Dr. Cochran, you will evidently have the majority with you, not only in Alabama, but throughout the country." "I regard the establishment of a new medical college in Alabama as a contravention of the best interests of the profession and the people." We already in this country have three times, yes, six times as many medical colleges as we have need for. In this opinion I am sure that I will be sustained by nine-tenths of the doctors in Alabama, in the South,—in the whole of the United States. Nevertheless, the expoliation of a

medical college is a business in which honorable men may honorable engage. The *process of organization* (Italics, the authors) is simple enough. It was only necessary to form a company of seven or eight doctors, build a big brick house, and apply to a complaisant legislature for a charter, and lo! the thing was done." (N. Y. Medical Record, July 28, 1894, p. 112.)

Dr. W. C. McGee (N. Y. Medical Record, Sept. 8, 1894, p. 317) in commenting upon Dr. Cochran's expressions, says: "Let every state follow the example of Alabama, and limit the number of colleges chartered. There is no excuse even for this (Ohio) great State having any more medical colleges.

"The chief difficulty in making a high standard universal lies in the number of medical colleges. It is, indeed, a sorry admission, that the medical schools in this country are the greatest enemy to medical progress, not in themselves, but in their number. *The remedy lies in their amalgamation* (author's italics). Let the absurdity cease of small towns having three, four or six of the struggling institutions, no one of which can have a vigorous life." (Commis. Education Report, p. 1618. Dr. J. M. DaCosta, Philadelphia.)

RAISING THE MEDICAL STANDARD.

"The Illinois State Board of Health announced that no school having a course of less than three years would be considered in good standing, and that its graduates could not practice in the State of Illinois without first undergoing an examination." (Commis. of Education Report, p. 1192.)

The influence emanating from the resolutions of the American College Association has been widespread in its results, creating a desire among the different institutions to elevate and render purer the standard of medical education in this country.

The American Institutes of Homeopathy lent a helping hand, in 1888, when it ordered that "after college session of 1890-91, each and all of the homeopathic schools of America will require their candidates for graduation at least three years of medical

study, including three full courses of didactic and clinical instruction of at least six months each." (Loc. cit., 1192.)

Dr. Marcel Badouin (Loc. cit., 611), from whose observations we can always find facts both instructive and interesting, says: "As regards medical schools the States confine themselves to recognizing their creation by according to them a charter and registering the diplomas which they confer without endeavoring to ascertain the intrinsic value of the same." In the first part of his assertion Dr. Baudouin is unfortunately correct, but the latter part of the statement was wholly true not a very long time since, but now is far from being universally accurate.

The States of Oregon, Montana and Minnesota, after the year 1898, will require an attendance upon four courses of lectures (Loc. cit., 1618) by all the graduates of their respective States, or all those from other States.

The Association of American Colleges in session at San Francisco on June 7th, 1894, resolved that students graduating in 1899, or subsequent sessions, be required to pursue the study of medicine four years and to have four annual courses of lectures of not less than six months' duration each. (A. Erskine Miller, Loc. cit., 1617.)

The Missouri State Board of Health (*Medical Record*, N. Y., Oct. 19th, 1895, p. 558) has ordered that the minimum requirement of persons who intend studying medicine to be the presentation of a diploma of graduation from a good literary and scientific college, or high school, or a first class teacher's certificate. No one can fail to be pleased and gratified by this action of the Missouri Board of Health, with its seventeen colleges, whose paternal jurisdiction constitutes a task of no mean formidability.

Dr. Wm. H. Welch (Loc. cit., p. 1627) of the Johns-Hopkins University, says: "It is highly desirable, in my judgment, that he (medical matriculate) should be liberally educated; that is, he should pass a degree in arts or science which would be an index of that knowledge and culture which, apart from any immediate bearings upon professional studies, are recognized as

entitling their possessor to be ranked among liberally educated men." The same authority further adds: "There are certain points which should be clearly understood as regards the requirements, that the preliminary education of a medical student should be a liberal one, indicated by a degree in arts or science, and include a specific amount and kind of knowledge of physics, chemistry and biology, a reading knowledge of French and German."

It cannot be doubted that the average amount of preliminary education has increased among our students of to-day. At the present time academic colleges and universities have included in their course of study physics, chemistry and biology. The majority of medical schools, with the same idea of preparing the student for his medical studies, have also these branches included in their curriculum. It would be eminently better, for the interests of medical education, if all the schools would make these courses more thorough and increase the length of time which they are taught; and that the applicants who do not possess the requisite amount of knowledge upon these subjects be compelled to begin their medical course one or two years sooner than those who, by a thorough *entrance* examination, are found to be qualified in these studies, and in the one or two years be especially prepared in chemistry, physics and biology, and be successfully examined in the same before they will be allowed to enter the regular medical course. In other words, all applicants who do not possess the requisite quantity and quality of knowledge upon these subjects be compelled to take up and finish a course in chemistry, physics and biology before they can become eligible as matriculates of medicine; these requirements are the same as those now in use by the Johns-Hopkins University, where the period of preliminary study in the medical department consists of a full year, or college training with laboratory work in physics, chemistry and biology,—it being required for admission when the applicant does not possess a degree, etc.; and it has likewise placed the standard on a

level with the European one of five years. (Loc. cit., 1631. Dr. W. H. Welch, *Western Medical Reserve.*)

The faculties of Paris, France (Loc. cit., 226), have urged that chairs in chemistry, physics and natural history be created in the medical faculties themselves on a broader basis, supplementary to but distinct from the regular course; as the courses on these subjects in medical schools were not intended for general instruction in the sciences, nor for training in methods of investigation; but as a means of making known the medical application of science and of scientific methods. These gentlemen supported their complaint by the statistics of the preliminary examinations for medical degree, which showed that more than a third failed, often one-half the applicants in the lists two or three times, and that a great many were discouraged by the failure, gave up the effort to begin a medical course.

"The maxim (Chas. W. Elliot, President Harvard University. Address the Amer. Instit. of Instruction, Bethlehem, N. H., July 11, 1894), that no subject should be attacked at all, unless it is to be pursued far enough to get from it the training it is fit to supply, presents us with the selection or election of studies as a necessity," this procedure is most applicable between the thirteenth and twenty-third inclusive, and admits of the freest possible field in medical education. It permits medical educators to select those subjects from the study of which the student is hoped to derive the greatest possible information. The same principle underlies the method of instruction in all the colleges and universities of any importance.

"It is a fact (Dr. W. T. Harris Loc. cit. p. 1626) of great consideration that ever since 1884 when the Harvard Medical School adopted the three years course, and in which the per cent. of students holding academic degrees was 53.9 per cent., while in 1893 the per cent. progressively decreased to 23, and with the advent of a four years course there will be a further decrease in the number of students possessing academic degrees, this gradual decrease among the Harvard medical students will in all probabilities be noticed in other schools, and is undoubt-

edly due to the prolongation of the academic course to the nineteenth and twentieth year, and the medical course to four years. On the other hand, to stimulate students to pursue academic courses and possess degrees for the same, one-quarter of the medical schools of the United States offer a premium, as it were, to matriculates who possess a degree in the arts or sciences by permitting them to enter the second year, crediting them with the first year, thus enabling the holders to complete their studies one year sooner."

This fact unmistakably shows that at least one-quarter of the medical educators of this country recognize and appreciate the true value of a course of study in the arts or sciences, the remaining three-quarters may or may not realize the intrinsic worth of these studies as determining the graduation of exceedingly competent physicians. At any rate, they furnish us with very meagre evidence that they do but fail to endorse the adoption of the standard of preliminary education now in use by the Johns Hopkins.

"In Europe and the continent the period of undergraduate study in medical schools is no where less than four years. In Switzerland it is nine or ten years; in Spain seven years; in Italy and Holland six years; in Austria, Russia, Portugal and several universities of Great Britain five years, and in Canada four years." (Dr. W. H. Welch, Loc. cit. 1630 Western Reserve Med. Journal.)

Dr. J. M. Da Costa (Loc. cit. 1618), states: "There is now all over the country a growing disposition for the universities to take charge of medical teaching and to develop their medical departments with all the zeal they give to others. We see it in Michigan; we see it in California and Colorado; we see it in Louisiana and Texas; as strikingly as in our Eastern States. There is nothing but good in this. The power, the means, the spirit of the University go out to its branches; the university in turn gains by the reputation of its medical faculty, and by the recognition that medicine is an essential part of the new learning which leads on to the highest attainable civilization."

The President (A. Talman Smith, Loc. cit. p. 236) of the French Republic, recognizing the importance of higher medical education, has issued the following decrees: Art. 2nd. "The candidates for the doctorate in medicine, in order to take their first inscription, have to attain the diploma of a Bachelor of secondary classical instruction (lettres philosophic) and the certificate of physical, chemical and natural sciences." The decree, by the same authority, relative to special scientific studies qualifying men for admission into the medical courses is: Art. 1st. "There is instituted in the faculties of science a preparatory course of physical, chemical and natural sciences." Art. 2nd. "To this instruction are admitted young men provided with a diploma of Bachelor, and after examination by the faculty, the young men of at least seventeen years of age, are provided with proper certificates." Art. 3rd. "At the end of the course, and after examinations are passed before the faculties of the school, a certificate of physical, chemical and natural studies is delivered." (Dr. Marcel Baudouin, Loc. cit. p. 610.)

In this country the post-graduate school is playing a most important role in raising the standard of medical education;—these schools, after the State Boards, are by far the strongest element assisting educators to place medicine upon a higher plane than it has ever occupied in the United States.

There are nineteen of these schools in this country, fifteen of which are regular; two homeopathic and two eclectic. (Dr. Marcel Baudouin, Loc. cit. p. 610.)

The post-graduate feature of our medical institution unmistakably exerts a powerful influence in correcting the faulty and incomplete results of some of the too numerous medical colleges with which the profession is burdened. The assistance and stimulus given to medical education by these institutions are widespread, and are apparent in almost every hamlet in the country. Paris has no post-graduate schools; but the German Polyclinics correspond to our post-graduate colleges. The post-graduate school has been particularly helpful to the medical colleges in preparing and training physicians for special practice;

e. g., opthalmology, othology, etc.; so serviceable has this help become that the colleges were not slow to take the suggestion that they were giving inferior instruction in special branches, and at the same time acting upon it as a matter of competition, they recognized the importance, both educationally and financially, of special study, and at the present time very few institutions are without some form of clinical teaching.

To the post-graduate school is directly due the recent widespread introduction of the staff of clinical professors, a corps of men which has enormously enhanced the scope and attitude of medical pedagogy. The outcome of all this is that physicians in the agricultural districts consider their spring course a necessary element in their professional life, and numbers are yearly returning to their *alma mater* for special clinical instruction instead of going as formerly to post-graduate schools.

Another important feature at work in raising the medical standard is the influence produced by the State Boards in their unanimity of action, and recognition that something must be done for the present educational system.

The thirty-five boards representing the sentiment of their respective States and Territories should receive unlimited encouragement and assistance in their desire to improve the medical status of education, and to them we owe many grateful feelings for their gratifying efforts and success in placing medical education upon a higher plane than it has ever occupied in the history of medicine in this country. These boards have just begun their beneficial crusade, and the obstacles in their pathway are many; the first of which must be removed by their adoption of some standard of entrance examination and making the same a law to which *all* the medical schools of their respective States must legally comply, and on such a plane that recent graduates shall not be guilty of numerous orthographic blunders.

We are all aware of the uselessness of the preceptor system, and are perhaps grateful that its obsoleteness is rapidly ap-

proaching, and its existence will shortly have been a thing of the past.

Any essay upon medical education in the United States would be incomplete if it did not contain full mention of the role of woman in moulding and shaping the future evolutionary career through which the profession is passing. Our country affords the most liberal and ubiquitous opportunities for woman, not only in medicine, but in the arts, law and commerce. We have sixty-four medical schools in which women can receive a medical education, seven of which are exclusively for their use, and the one institution representing the highest standard is unconditionally the Woman's Medical College of Pennsylvania. Of the above number thirty-six schools are regular; thirteen homeopathic, nine eclectic, four post-graduate and two physio-medical colleges. This country abounds in the freest medical facilities for the education of women. (Loc. cit., p. 1990).

There are fifty-three schools or 82.8 per cent, which have a three years' course; seven with a four years' course, or 9.01 per cent; one with a two and three years' course, and one with a three and four years' course. (Loc. cit., p. 1990). Of the five hundred and fifty-nine students present in the schools during 1892-93 exclusively for women, but forty-six of that number possessed degrees, or just 8.23 per cent; decidedly below the 23 per cent as found in the Harvard Medical Schools during the same years.

Women are rigidly excluded from the advantages of a university education in Germany, and consequently may not become candidates in any medical school; they are thereby precluded from having a certificate upon examination necessary to practice in that country.

The admission of women to higher education was formerly forbidden by the law in Austria-Hungary. In Spain matters are decidedly worse than in Germany. The universities of England, Ireland and Scotland, through which the registration necessary to practice is produced, are thrown open to women. Ireland, like Sweden, Norway and Denmark, has no distinction

in sexes, but women in these countries are not eligible to State (or medical) appointments. The broadest and most liberal rights in education to women on the Continent are obtained in Belgium, Holland, Roumania and Italy. Women first gained entrance into the L'Ecole de Medicine Paris, in 1863, but French women have unfortunately failed to take the slightest advantage of this liberal opportunity.

Russia is liberal in regard to educating women physicians; in 1893 five hundred and forty-six were practicing in that country. It can be said in regard to women physicians in Russia, that in 1893, of the three hundred and eight women studying medicine in Zurich, Geneva, Berne, Basle and Lousanna the majority returned to Russia to practice. Canada has only one school exclusively for women. (Dr. Marcel Bauduin, Loc. cit., p. 1628).

The Imperial Government of Russia has recently appropriated $200,000 for a woman's medical college at St. Petersburg.

The Woman's Medical College of Pennsylvania is acknowledged by both foreign and home authorities to be the institution *par excellence* for the education of women physicians; and the status of this college has done much to assist in raising the medical standard all over the country.

The question may be asked: How has the attendance of students been affected by the requirements of another year of study? Adding one year to the course means not only increasing the amount of time required, but also an increase in the financial outlay. It would naturally be expected that many young men would be led to seek other lines of employment. Instead of any decrease there has been for the past five years a steady increase. In 1888-89 the number of medical students was 15,029; since that time the number has gone steadily forward to 19,752 in 1892-93; or 7.65 per cent increase, or 1.91 per cent a year. (A. Erskine Miller, Loc. cit., p. 1618).

Many who otherwise would have studied medicine were most likely kept out by the lengthened course.

The fact that the number of students has enormously increased under the present system of medical education is as ap-

parent as the harmful influence of the excess of medical schools, and requires no further comment to the observers of medical progress to prove that the present system is radically wrong.

It is admitted on all sides that numerous defects of medical education still exist, and in a form almost as virulent as formerly, and in extent from the Atlantic to the Pacific, and from Oregon to Maine; this would conclusively prove that the present system by which physicians are educated and graduated, although the result of the most commendable effort, has failed to give us in the first place a general standard governing entrance examinations, thereby placing the very beginning of medical education upon a foundation that will withstand the misusages of municipal, state and collegiate perversions; in the second place, the present system has not decreased the number of medical schools, but under its regime they have actually increased with ominous prospects of a still further exploitation. Since 1880 fifty-two medical schools have been organized in this country.

Medical educators are clamoring and making strenuous efforts for some improvement in the method by which doctors are graduated and licensed. The new medical examining boards are being organized, older ones are throwing out further restrictions by which they hope to suppress and prevent the defects and perversions of modern education, and which, with all our sincere efforts, still go on unabated.

The two most prevalent evils to be corrected and eradicated before we can ever hope to rescue the educational system from its present chaotic condition, to a rational and scientific basis, are the absence of a law or any other means that shall secure a national and regulated entrance examination for all the medical schools of this country, and to which they shall conform, thereby creating a level up to which every medical applicant in America shall have reached before he can be eligible to matriculation.

The passage and thorough administration of such a law will, beyond a doubt, remove the most potent defect that is preventing the laudable efforts of men who sincerely desire to raise the

standard of the medical profession. The second evil is the unlimited coinage of good, bad and indifferent medical schools, and to minimize the baneful influence of the redundant schools. Dr. J. M. DaCosta has suggested "amalgamation." I see no way by which the present number of schools could be wholesomely decreased, except by competition and the survival of the fittest. A national and regulated entrance examination would bring about such a struggle for existence that very little effort would be further necessary to reduce the excess.

There is absolutely no better way by which these defects and perversions can be removed than by national legislation. The French Republic ineffectually tried other methods, and it was only with the creation of a minister of education that the teaching of medicine has been materially accelerated and placed upon a scientific basis.

Before any law for the national control of medical education is entertained or discussed, it is a matter of absolute necessity that the principles underlying and governing primary education be succinctly and specifically stated, as their application and general usefulness are as important and necessary in medical teaching as they are in the primary schools.

The most wholesome and philosophic principles of education are those enunciated by Prof. Chas. W. Elliott, of Harvard College (Loc. cit.,), whose first law is "*Individual Instruction.*" This principle is moderately well exemplified by the word "classes"; small classes in physical diagnosis, the individual instruction in the "out-patient departments," which many of our colleges possess. the detachment of a small number of students to assist in abdominal operations, etc. Instructions in the quasi-pharmaceutical and chemical, histological and bacteriological laboratories, and also in dissections and laboratory operative surgery.

"*The education of the special senses,*" as a result, follows the preceding forms of individual instruction, and all those processes of teaching that cultivate seeing, hearing, touching and doing.

"*The main object of education nowadays is to give the pupil the power of himself doing an endless variety of things which uneducated he could not do.*" This, in medical education, is brought about by, first, demonstrations of operations, examinations, their technique and method of applications, and all other procedures which can be performed by the student himself.

"SELECTION AND ELECTION OF INSTRUCTION."

In no other branch of education is there more room for the free use of this principle than in medicine.

The medical schools of the country have, by constant application of election, incorporated studies in their curriculum which have been of vast assistance in increasing and maintaining the medical standard. Some of these branches, e. g., chemistry, physics and biology are as yet very unsatisfactory, being mixed here and there with the first year courses on physiology, anatomy and chemistry, and so short and incomplete that they should be widened and arranged to consist of a preparatory course for the student before he begins his medical studies. "*Discipline*": Permanent motives, prudence, caution, etc., constitute the third law. These qualities can only follow as the result of a thorough medical education, consisting of the principles of practice, surgery, and institutes of medicine, and which should inculcate due regard and appreciation of their objects, inciting "permanent motives" for their uses; exercising "prudence," and of their application practicing "caution." *Specialization of teaching* is well demonstrated by the post-graduate schools in ophthalmology, genito-urinary diseases, etc., and the very existence of medical education in this country.

The last principle of Prof. Elliott is "administrative officers in educational organizations be experts and not amateurs or emigrants from other professions, and that teachers should have larger advisory functions in the administrations." The free and unlimited use of these stipulations is absolutely necessary for the proper maintenance and control of any educational institu-

tion. The Board of Trustees should be composed of men who are thoroughly familiar with and alive to the principles and uses of education, and not men who have been selected solely for ulterior motives connected with financial and political interests of the institutions. More credence and consideration should be given to suggestions and advice from active teachers, for with few exceptions these men meet with daily evidences of the defects of the schools in which they teach, and are consequently good judges of the improvements and progress.

The solution of this much discussed subject, medical education, and the remedy for the extermination of its defects and perversions lie in national control and jurisdiction of the preparatory instruction of medical students; the number and length of studies, duration of courses, and the control of final examination to be presided over by disinterestedness, and finally the issuance of a license to practice in any State in the country, and last, to prevent the indiscriminate and redundant "exploitation" of medical schools.

In the first place, the State boards of medical examiners and boards of health have ubiquitously failed to standardize the entrance examination in the medical schools of their respective States, and could not, even if they had the inclination to do so, force a national standard among themselves which would govern all the applicants for admission into the medical schools of our country. A law or a board of national medical examiners, representing the interests of all the States, and in which was incorporated, and the members of which were endowed with this principle, would constitute the most powerful means for rapidly and scientifically elevating the professional standard, and rid medicine of an internecine enemy, whose utter disregard for good teaching is displayed by the number of different standards and grades throughout the country.

This principle, a national entrance examination, if sincerely applied in every State and territory in the Union, would, in an incredibly short time, decrease the excessive number of medical schools by creating among applicants, as they would have to

comply with certain requirements, to select the institution which offers the best and most thorough facilities.

As has been previously shown, there is an intense and healthy desire among educators and medical institutions to arrange for a complete and thorough preparatory course for students before they take up their medical studies, so that they will possess knowledge of the fundamentally scientific elements of medicine, and be better qualified in every way to begin their medical course.

As this is a well known fact, and its true importance generally recognized, it would require very little to incorporate this second principle in a national or State law upon medical education.

An increase in the number and length of studies and duration of the courses has been thoroughly recognized by physicians, teachers, colleges and universities for some time, as evidenced by the fact that very few colleges are deficient in the number of studies in their curriculum, while many do not give sufficient time to the teaching of all the subjects, e. g.: chemistry, physics, biology, clinical and bed-side instruction. They have made the duration a living question in medicine to-day, as proven by the stand taken by sixteen colleges who have inaugurated a four years' course; ninety-two with a three years' course; and eighteen boards of health and medical examining boards who have declared no college to be in good standing unless it have a three years' course of six months each.

The American Academy of Medicine, at its meeting at Atlanta, Ga., on May 2nd and 4th, will have presented for reading and discussion twenty-one papers upon the manifold phases of medical education, one of which will be read by Henry Leffmann, M. D., of Philadelphia, on "A National Board to License for Practice of Medicine."

The next principle to which attention is directed is the final or graduating examinations, which are as loosely conducted in some colleges as the entrance examination is omitted in many. Seventeen States, by the passage of laws, have defined the final ex-

amination of the medical institutions in their respective States to be unreliable from the position which boards occupy, compelling all graduates to pass a satisfactory State medical examination before they can secure a license to practice. The college of which the candidate is a graduate has been conferring a diploma upon him, which rendered him only eligible to have a State examination, nothing more, and not the right to practice.

These boards have actually removed the responsibility of graduating properly qualified doctors from the schools, and placed it upon their own statutory shoulders. They have also unwisely interfered with the most sacred right of an American citizen, the right of liberty of honest action, in preventing him from practicing his profession in any State he may desire. A certificate from a national board would permit a physician to practice medicine in any State in the Union, a right which is constitutionally his. It would give the profession a standard of competency and do away with the many conflicting standards of the different medical examining and health boards, and place the physician of this country upon the same footing with our professional brethren in Germany (*Medical World*, p. 1096), France and England, who have the right to practice in their respective countries and provinces. It would likewise very quickly place the responsibility of educating physicans just where it rightfully belongs.

The gentlemen composing these boards deserve the gratitude and emulation of every thinking physician in the United States. Our object should be a unity of purpose, to do away with conflicting efforts, and work for the accomplishment of giving every doctor the right to practice in any State, and place the responsibility of education of physicians where it rightfully belongs; and the final examination should be controlled by a national standard, which shall be presided over by men who are competent in every respect, and who are entirely disinterested in the results.

The last principle is the one applying to the prevention of

the indiscriminate and redundant exploitation of medical schools. Cries for the suppression of this great evil come from every corner of the land, but the organization, incorporation and granting of charters still go on,—no apparent let up or diminution; fifty born in sixteen years.

A national medical board could, in a comparatively short time, become thoroughly conversant with the requirements and necessities for the needs of the old medical schools, and the creation of new ones through their instrumentality; State legislatures would be notified of the usefulness and need of any more schools within its borders, and if not necessary the State would refuse to issue a charter to any body of medical men without the application for the same having been first endorsed by the national board of medical examiners, showing that the erection and incorporation of a new medical school were a public necessity, and that its establishment would prove a happy addition to the community and medical profession. The drafting of such a law for the creation of a national medical board of examiners containing the forms, etc., by which the board shall govern and be governed, and the details incidental thereto, I much prefer, for the present, to leave to more legal minds.

SECTION ON OPHTHALMOLOGY AND OTOLOGY.

REPORT OF CHAIRMAN, JOHN O. McREYNOLDS, M. D.

DALLAS.

GENTLEMEN:—In discharging the duties of chairman of this section, I feel that my most important work consists in securing valuable papers from other members of the profession rather than by making any special contribution of my own. And in presenting my report I shall endeavor to give a brief notice of some important conclusions deduced from the experience of our confreres, together with a short account of some recent cases in my own practice, with the lessons which they naturally impress.

Abadie, of Paris, France, has given up all operative interference in cases of chronic glaucoma, and relies mainly upon daily instillations of eserine and pilocarpine supplemented by the internal administration of bromide of potash and sulphate of quinine.

Galezowski, of Paris, considers that glaucoma is a lymphangitis of the eye, the most important primary lesion being a partial or total obliteration of the canal of Schlemm. His method of treatment consists largely in repeated sclerotomies performed with a small lance-shaped knife which he has devised for this purpose. I have had the pleasure of witnessing some of these operations in his clinic, and of observing some of the good results obtained by this procedure.

The method of a very peripheral iridectomy for glaucoma continues to be practiced by quite a large proportion of oculists, and if properly performed it undoubtedly is capable of accomplishing much good in many cases of this affection, but if the operation is imperfectly executed, it may do more harm

than good, as was beautifully illustrated by a microscopical section shown to me by Collins, of London, in which specimen that portion of the iris improperly allowed to remain had become folded back upon itself, thus more completely closing up the spaces of Fontana than was the case prior to surgical intervention.

Landolt, of Paris, gives among others, the following rules for facilitating the diagnosis of the paralysis of the ocular muscles. 1. The paralyzed muscle is the one which should give to the eye the position and direction of the false image. 2. The direction of the head corresponds in every way to the physiological action of the paralyzed muscle.

Roure has found that in 80 per cent. of the cases in which the two eyes are unequally astigmatic, the most astigmatic eye is the one first affected by cataract.

Fuchs thinks that chalazia are due to the closure of the openings of the ducts of the Meibomian glands with consecutive inflammation.

Power, of London, has observed a favorable result from the ligature of the common carotid for exophthalmos due to a pistol shot wound of the orbit.

Theobald, of Baltimore, emphasizes the importance of subnormal accommodation, and he employs a vertical diplopia test and prescribes for near vision the glasses which give an exophoria of two or three degrees at thirteen inches.

Electricity has been largely employed in the treatment of corneal opacities, and its action is due in part to the direct irritation of the cornea caused by the stimulus of the current, and in part to some electrolytic influence which it exerts. I have found also that a mild galvanic current forms a valuable adjunct in one case of rheumatic sclero-keratitis, decidedly reducing the pain and photophobia and decreasing the amount of corneal cloudiness.

Gould, of Philadelphia, Hale and Graddy, of Nashville, and many others, consider that faulty innervation is an important factor in the production of heterophoria.

Stevens, of New York, is able to diagnose the character of many cases of heterophoria by the simple inspection of the countenance on account of the contracted condition of certain facial muscles in certain varieties of this affection.

After a careful review of the literature on the subject of heterophoria, and from personal conversation with those whom I have had the privilege of knowing, I conclude that the weight of testimony is in favor of conservative measures in the treatment of this affection. To my mind we are still not ready to totally discard the use of prisms in certain conditions, though the demand for their employment is not very extensive. In every case of heterophoria the utmost dilligence, care and judgment should first be exerted for the correction of any existing ametropia. Then the constitutional condition of the patient should be carefully studied, and if possible improved. Then, any persistent heterophoria should be alleviated by partially correcting prisms. And finally, as a dernier resort, we may have recourse to operative procedures, which consist for the most part in tendon contractions, advancements and more or less complete tenotomies. It seems beyond doubt that partial tenotomies have been successively employed by some oculists of high repute, and I might say that some of the most scientific and successful men of the world have now practically abandoned this method. The more rational and more conservative plan, in my judgment, is tendon contraction after the manner of Savage, or some one of the numerous methods of advancement. And certainly in cases of an over-correction of an error, the trouble should be rectified by contraction or advancement of the tendon, and not by an additional tenotomy; and this view is supported by Stevens himself, the greatest exponent of partial tenotomies that the world has seen.

With regard to cataract extraction, there still exists considerable difference of opinion, but the weight of authority is rather in favor of simple extraction without iridectomy in uncomplicated cases, and with iridectomy when complications are present.

I feel that we possess an agent in kataphoresis which is destined to be of very considerable service to us in those operations in which the simple application of a local anæsthetic is ineffective, and in which it is not desirable to employ complete general anæsthesia. I have used it with decided advantage, particularly in case of aural tumors, whether involving the middle ear or external auditory canal. And I will add in this connection that the most satisfactory material that I have employed in the snare for the removal of these growths is silk-worm gut suture. It has not the excessive rigidity of steel, and hence is less painful to the patient, while its strength and elasticity render it more desirable in many cases than platinum.

There has been no step of scientific advancement in recent years that has created more general interest than the development of Roentgen rays with their applications to the diagnosis of anatomical conditions. But so far the technique has not been sufficiently elaborated to render it of very great value to our department of medicine in determining the character and location of pathological material. Indeed, our present means of diagnosis are so delicate and far-reaching that anything, to be of decided improvement, must possess the power of differentiating very minute deviations from the normal. However, the new discovery, even in its present state of development, will aid us in locating the position of foreign bodies, and in some cases morbid conditions of bone, such as fracture and extensive necrosis. And we confidently hope that the future will furnish methods of differentiating still more important anatomical changes.

THE EYE IN ITS RELATION TO HEALTH.

H. L. HILGARTNER, M. D.,

AUSTIN.

There seemed to me to be two paths open to a specialist when called upon to address a body of fellow-physicians: one is to take up some special theme upon which he has gotten together important data from reading and from practice, and to endeavor, by the statistical method, as it were, to add to the sum of medical knowledge in the way of some special deduction from the facts he has collected and compared. Such a specialistic method of procedure seems to me rather fitted for a printed than for an oral statement. Another way open to one who addresses a convention like ours, seems more appropriate, because more generally practical; i. e., rather to deny oneself the very natural satisfaction which might ensue from a successful effort to present facts hitherto unobserved, and infer results hitherto not deduced, and to choose rather certain broader aspects of professional activity where the direction of the specialist's attention, along certain general lines, has impressed upon him the importance of particular connections between the disease with which his specialty brings him in frequent contact, and those which fall under the observation of the more general practitioner.

The wider my experience extends the more I am impressed with the fact that the successful specialist must keep his eye carefully open to the details and the problems of the general practice. Many a case has been either inadequately treated or totally lost by the specialist, because of the fact that in the hurry of work and the press of engagements, largely monotonous in character, and tending to narrow his range of vision into more or less mechanical grooves, he has overlooked the true cause of disease because it lay outside of his usual province, and

so confined his treatment to what in the sequel proved to be the mere symptoms and not the source of the malady. A single example that came very recently under my observation will make clear to you the general truths I am trying to convey:

A case, seemingly of a serious character, was referred by a physician to one of the most famous specialists in America. The case was one of blepharo-spasm. Upon examination the specialist, observing certain well-known and more or less common symptoms, in the hurry of office-hours, though not without the most careful formal examination, reached the conclusion that the cause was to be found in astigmatism, over-muscular exertion, and the weakness that results from too rapid development, all causes which, in the experience of the specialist, are severally adequate to account for the given symptoms. The treatment was determined accordingly, and the result promised at first to be satisfactory. The sequel proved, however, that the good results amounted to nothing more than an abatement of the symptoms, for as soon as the patient returned to his home, a distance of 1000 miles by the way, the trouble set in again with unabated vigor. This seemingly remarkable and certainly very interesting case chanced to fall into my hands. Upon informing myself of the history of the case, as above outlined in general, I at once reached the conclusion that the origin of the trouble was to be sought somewhere in the general constitution of the patient rather than in the particular region with which the oculist has normally to deal. My experience has shown me that for cases of this character, not to be accounted for along usual lines, a very fruitful cause lay in reflex troubles arising out of the intimate nervous connection between the eye and the genital organs. It was, I confess, a mere hypothesis on my part, but I regarded it sufficiently probable to insist that the patient should be examined by a general surgeon. The case was referred to Dr. Wooten, to whom I communicated my suspicions. Examination revealed the fact that the prostatic urethra was very sensitive and irritated by self-abuse. The eye trouble was a reflex result of this practice, and disappeared with

its discontinuance, together with proper treatment. I have therefore decided to invite your attention to that particular aspect, of the relation of the eye to the general health, which may be expressed as reflex irritation from points lying more or less remote from the apparent seat of the eye trouble. However, I wish to state that in this paper I desire particularly to call attention to that class of reflex troubles which have their seat in the genital organs.

For those who have special interest in the subject, it may be desirable to outline in brief the history of previous investigations upon the particular subject in hand: Foerster is one of the earliest writers that have contributed to its literature, devoting a special chapter to it in his work. In 1385, the Italian Rampoldi published a treatise on this topic; later Jacobson, Solis Cohn in "Uterus und Auge," in 1890, Emil Berger (1892), more recently Knies, of Germany, and still later Boerne Bettman, of Chicago.

In addition to the above, articles pertaining to the subject have appeared, from time to time, in the various journals to which I can only refer in a general way.

Quain says: "In each case of reflex trouble we must have (a) afferent impressions resulting from the influence of a foreign body or a pathological state (such as inflammation or ulceration), acting as an irritant upon afferent nerves, either in some part of their course or in their peripheric sites of distribution—whether such sites be situated upon the external surface of the body or upon some part of one or other of the numerous surfaces within the body. Thus it happens that the determining cause may in some cases be associated with painful impressions, though in many other instances such impressions may be more or less completely absent.

Occasionally mental emotions may take the place of peripheric impressions, as inciters of abnormal reflex phenomena.

The next essential factor (b) is that the afferent impressions (painful or non-painful) produced by the irritant or pathological state, should pass from the nerves, conveying them through a

related *nerve-centre*, which, from one or other cause, chances to be in a state of exalted activity, and thence (c) be reflected along one or other set of *afferent nerves*, so as to produce effects of this or that order."

Now anatomy teaches us that between the two sets of organs immediate nexus is established by the nervous, vascular and lymphatic systems; between the abdominal, brain (Boerne Bettman) and the sympathetic system by means of the renal, hypogastric, aortic and other plexuses, and with the motor nerves of the eye, by means of carotid plexuses and other ganglia. The nexus with the vascular system lies through the ovarian, uterine, internal illiac arteries, the aorta, internal carotid and ophthalmic artery and its branches.

Flexions and versions of the uterus explain many reflex ocular disturbances, such as asthenopia. Others are communicated through the vascular system, as for example, metastatic choroiditis; and lastly constitutional errors resulting from uterine and ovarian disorders, in the female, and affections of the urethral tract, in the male, are fruitful sources of such disturbances.

Normal as well as abnormal menstruation frequently causes a variety of eye symptoms.

Finkelstein observed a case of limitation of the field of vision during the period involving also a concentric narrowing of the color zone. Cases of this class are quite numerous. Despagnol and Trousseau have both described a case of recurrent iritis developing at each menstrual period.

The history of the following case in my own practice is a typical one: Five years ago Miss G———, aet. 18, had eye trouble, both eyes being affected, one worse than the other. After three months treatment she was partially relieved, but the trouble returned one year later, and being so situated as to preclude the possibility of treatment, she continued to suffer for two years longer, when in August, 1894, she came to consult me. Upon examination I found the case to be one of keratitis, both corneæ entirely opaque and vascular with inflammation of the conjunctiva; ciliary injection was marked, with acute photo-

phobia. With each menstrual period there was *intense exacerbation.* After treating the case for several months with very unsatisfactory results I decided to subject the patient to vaginal examination, which developed the fact that the patient was suffering from endo-metritis and granular erosion of the cervix. The proper treatment was at once applied, with the result that the eye trouble was promptly alleviated, the inflammation in one eye disappearing in two months, and a radical cure of both eyes ensuing in five months.

But while ocular defects resulting from organic lesion of the genital organs are not uncommon in the case of females, it must be admitted that as Knies states, the tendency of the profession is generally to exaggerate the importance of disease of women as the immediate cause of ocular disturbances.

On the other hand less attention seems to have been paid to this phase of pathology in the case of males, and you will pardon me if I here take occasion especially to emphasize the question of reflex troubles in males due to urethral irritation. In the case of women, the attention of the physician is always directed towards the uterine region as one of the most common sources of pathological disturbance, where, as in the case of males, it is often times only accidental that his attention is so directed, or that he is duly notified of symptoms arising in the urethral tract from the indiscretions of youth or the excesses and irregularities of manhood.

The following is a typical case in my own experience. In the summer of 1893, Mr. A, aet. 21, consulted me for granular conjunctivitis and blepharitis of six months standing. After treatment, off and on, for twelve months without satisfactory results, my suspicions were aroused that the true seat of the trouble was more remote from the part affected. Upon close questioning the patient admitted that for years he had practiced self-abuse but denied venereal intercourse. Examination revealed stricture resulting from masturbation, with gleety discharge. Seminal emissions occurred twice weekly. The strict-

ure was dilated, and tonic course pursued with speedy improvement in all symptoms, and radical cure within two months.

Now Mr. President and gentlemen, I have sufficiently taxed your patience, but I have endeavored to be as brief as possible, citing only a single typical case in each connection from an abundant stock of material collated from my own experience, as well as from that of my colleagues in Austin. The importance of the subject therefore, should not be gauged by the limited statistics I have given. My experience has taught me that the particular phase of reflex troubles here considered is so frequent, and at the same time so insidious and often so difficult, by reason of insidiousness, of successful treatment that it well deserves the emphasis which I have laid upon it in this paper.

To sum up in a word the point of my remarks, I believe it an important matter for the specialist and the general practitioner to bear in mind that in stubborn cases of eye trouble which do not yield to normal treatment and show that persistency which the cases I have cited illustrated, an examination for reflex disorders, especially in the region of the genital organs will often reveal the true secret of the trouble and suggest the proper means to an effectual cure.

DISCUSSION.

DR. J. S. WOOTEN, of Austin: I would like to lay emphasis upon the fact that has been so plainly stated here to-day by Dr. Hilgartner of the necessity of specialists being well prepared on the lines of general practice. I have had the pleasure of examining some of the cases sent by Dr. Hilgartner to the office, and in over half of those cases in which he suspected reflex trouble an examination of the posterior urethra showed hyperplasia and inflammation, and the history revealed the fact that the individual was suffering from sexual trouble, and in most cases due to sexual intercourse. I have had cases suffering from asthenopia that I was treating at the same time for sexual impotence. Strychnine as a tonic, without the use of glasses, made the vision normal; the asthenopia declined by the constitutional treatment of the impotence.

DR. JOSEPH A. MULLENS, of Houston: I was very much pleased to hear the paper of Dr. Hilgartner: It is a very practical one; its suggestions can be applied as soon as we reach home. In the same connection I would like to report the case of a small boy who had been treated for twelve months. His astigmatism had been corrected, and he still had very severe headaches, and inability to read longer than ten miuutes. He had been galvanized repeatedly, and still the asthenopia was present. I examined his nose very carefully for some possible defects in the nasal cavities, and could not find anything abnormal. I also examined his teeth without making any discovery. I then turned the boy over to a general practitioner for examination, and he found a long prepuce, which for hygienic purposes he removed, with the pleasant result also of removing all the unpleasant symptoms from which the boy had suffered for a long time.

DR. J. O. MCREYNOLDS, of Dallas: Dr. Hilgartner could not remain, and he asked me to close for him. I will say that it is impossible for us to realize the close relationship between local irritations producing reflex phenomena in the eye. It occurs to me that general practitioners have paid too little attention to the relation existing between diseases of the liver and the eye. Diseases of the eye can quite commonly be traced to diseases of the kidney, brain and nervous system, but association between the liver is rarely reported. I have a case of retino-choroiditis in which treatment of the liver succeeded very well, indeed. I will say also with regard to influenza that we frequently find affection of that kind. Last November a young woman had influenza with intense frontal headache and lumbar pain. She was in bed for several days. No eye trouble at any time. Decided loss of vision occurred after convalescence. Urine since attack normal. She had trachoma and astigmatism, neither of which depended upon influenza. The ophthalmoscope showed a most typical case of albuminuric retinitis. Repeated examinations found the urine normal. During the first attack there was probably an acute nephritis which subsides, leaving only retinal traces. In every case before glasses are prescribed for suddenly diminished vision the fundus should be examined, so that patients are not given glasses which might prove injurious?

DR. WOOTEN: In regard to that urine, did you make a microscopical examination of it.

DR. MCREYNOLDS. Yes; repeatedly.

EYE SURGERY BY THE GENERAL PRACTITIONER.

E. J. NEATHERY, M. D.,

VAN ALSTYNE.

It is not my intention to delve into the endless depths of surgery of the eye, nor is it my object to detract from the specialist what is his; but to offer a few suggestions to the general practitioner to enable him better to know when the advice of the specialist should be sought.

We of the general field of medicine, especially those far removed from the larger cities, are from absolute necessity compelled to treat a great many affections of the eye, especially of the simpler varieties. How often injuries of the eye are met with that demand immediate attention, or the great and glorious organ of vision would be destroyed or seriously impaired for life, and if a competent man can not be had an incompetent one must officiate.

Again, charity practice is not confined to the city alone, as all country physicians will certify. In the ranks of poverty how often we meet with some poor mortal who cannot spare the time nor money incumbent upon a trip to the specialist, even though the specialist treats him "gratis," who can be benefitted by his family physician, provided that physician has a thorough knowledge of the eye, not so well, perhaps, as the specialist, but infinitely better than no treatment; and my experience has been, that among the half-starved, half-clothed classes, and especially among the colored race, we have more serious eye diseases than among the better fed, better clothed classes.

I timidly assert that our profession has been guilty of malpractice, oftener in treating diseases of the eye, and especially

surgical diseases, than treating all other ailments that human flesh is heir to.

We are guilty not only of the sin of commission but omission as well. Many times a serious malady goes unrecognized, when all might have been spared the poor, trusting, dependent patient if the physician had only known. But trusting to Dame nature to repair the injury and cover up his blunders, he temporizes, and the patient remains a sufferer, for in my experience nature does less for surgical diseases of the eye than for any other class of troubles.

The old adage, that nature is a good physician, but a poor surgeon, applies to no other class of troubles more than to the eye.

My observation has been that a patient, believing the organ of sight to be in danger, will unhesitatingly take the chair for the most serious operation, while he will emphatically refuse the simplest operation on any other organ of the body. Some of our leading lights, and especially surgeons, have been guilty of the greatest errors.

I once knew a patient, sent thirty miles to a specialist by a very conservative man, who, while ploughing in the field, got a small particle of snail shell in his eye, and by its concave surface adhered to the ball, and all the specialist did was to remove it with a "spud," charged his fee and send the patient home. I saw another patient that had been treated by a surgeon for corneal ulcer, and all that was done to cure the eye was to remove a small yellowish husk from a grass seed that had adhered; and other cases innumerable.

You of the cities with a competent specialist at your elbows can get on without very thorough knowledge of the eye; but it must be remembered that nine-tenths of our profession in Texas are country physicians, and too often not accessable to a railroad.

Often a single expression, with Knapps roller forceps or by the "Grattage" method, a patient with trachoma would be

able to exist in peace, when a lack of knowledge and experience would redound to the great detriment of the sufferer.

I have visited the offices of some surgeons who could tell you all about Bassenni's operation for hernia, and Alexander's opertion for retroversion, that had books from Pschyopathia Sexualis and "The Physician Himself," to the most voluminous ones on surgery, who did not possess a single work on surgery of the eye. Or if they perchance boasted of such a work, an examination would reveal the fact that it was Jones' Ophthalmic Surgery, with a great uncle's name on the fly leaf, who was more progressive than his nephew, with a date on the title page of A. D. 1846.

Great harm is done often by a failure to recognize the necessity of cleanliness. The most uncleanly man I ever saw was a general practitioner, who devoted some attention to the eye, and the cleanest man I ever saw was an up-to-date oculist. I have known some surgeons so very cleanly that they would ordinarily use Johnston's etherial soap and antiseptics innumerable on the stomach of a new-born babe before applying a plaster; who would make use of a camel's hair brush on any case of trachoma that came in their way without so much as giving it a cold water bath, and allow it to play hide-and-seek among a lot of genito-urinary instruments in the interim. Asepsis is most important, antisepsis next. Every instrument should be thoroughly sterilized before the most trivial operation. The hands thoroughly cleansed, the patient's face and the field of operation treated in like manner. The room in which the operations are performed should be kept scrupuously clean, and no extra furniture or hangings should be allowed to remain. The patient's bedding should be treated to frequent soap-suds baths, with wash-board massage.

Our antiseptic measures are chiefly confined to bichloride and boracic acid solutions. Carbolic acid has been held in high esteem, but owing to its insolubility, is a little in disuse.

A towel wrung out of a 1 to 5000 bichlor. sol. should envelop the scalp during an operation, and no towels or aprons should be used twice without being previously sterilized.

Sponges may be used and then thrown away, but I prefer a pledget of absorbant cotton wrapped in sterilized gauze. As an after dressing for wounds of the orbit, that will depend on the location and character of trouble; the sol. boracic acid meets the indication oftenest, and when the extra orbital appendages are involved, iodoform and aristol are best. As to anesthetics, I advocate most all work being done under cocaine anesthesia, 2 to 4 per cent sol. being used. Even enucleation may be performed under its soothing influence, but chloroform should be used in this operation. I always add a small per cent bichlor. or boracic acid and glycerine to the sol. cocaine, as it is very unstable and septic. In very young and nervous patients chloroform may be used in all operations.

I ask my fellow-practitioners who do not understand the eye to give more attention to its diseases. And it is pleasing to note that our sunny south is, as usual, setting example for our older States, in as much as our medical schools are devoting special attention to this subject, and students are as frequently and rigidly quizzed on this branch as on general surgery and practice.

DISCUSSION.

DR. M. D. KNOX, of Hillsboro: I think that was a more interesting paper than ordinary; exceedingly interesting. I have often thought if we general practitioners wrote papers on those subjects we would give some pointers to the specialists and make them look at those cases from our standpoint. I have always advocated the idea that a man should not be allowed to go into practice as a specialist until he has been a general practitioner several years. I have seen many grievous mistakes. Last year in Chicago I saw a man, a post-graduate of one of the medical schools, that I thought was making a grievous mistake because he had not gone into the general practice first.

DR. R. E. MOSS, of San Antonio; As the doctor suggested, the mistakes made by the specialist with little training, after leaving the college, are very disgraceful to the profession. No longer than three weeks ago a case came to San Antonio from a remote interior town, in which a man had received an injury resulting in a dislocation of the

lens into the anterior chamber, setting up a violent iritis, resulting in the total destruction of the man's eye. A general practitioner had been treating him with lotions for an inflamed eye. That man's eye was lost, causing irritation of the other eye, and the danger of reflex irritation and sympathetic ophthalmia necessitated its removal. Prompt and proper treatment might have saved this man's eye. I had a case in which a blow from a tree branch broke the lens. After the extraction of the broken lens the patient could read at a distance of ten feet. I think the general practitioners who go wild over abdominal surgery could do the people among whom they live infinitely more good by studying those things. It enables them to differentiate between mild and serious inflammations of the eye, thereby keeping the eyes and other delicate organs from being destroyed.

DR. J. O. MCREYNOLDS, of Dallas: The remarks Dr. Moss has made are exceedingly appropriate. The physician ought to know a good deal about the eye, the more the better for patient, doctor and specialist. The general practitioner should at least know two things about eye-surgery. First, keep the eye clean, and use atropia. Boric solutions will answer in the majority of cases as an antiseptic. In all penetrating and incised wounds of the eye, atropia should be used. Very little harm can be done with it except where there is a predisposition to glaucoma or the nutrition of the cornea greatly interfered with. The boric acid solution allays external inflammation while atropia puts the eye in a splint. A little boy was referred to me who had been shot in the eye, a shot striking each eyeball. In one eye the shot passed through the lid, ciliary region, and entirely traversing the eyeball. To-day his vision is perfect. The ophthalmoscope shows clearly the path of the shot, where there is a choroid atrophy.

DR. H. L. TATE, of Lindale: I have been very much interested, and I hope benefitted, by the discussion to which I have listened, and, I thank you personally for the information you have given us along this line which is spoken of, wounds of the eye; boric acid and atropia. My object in getting up and discussing the paper which has just been read is to mention some of the disappointments to which I have been subjected as a general practitioner when I have sent my patients to the specialist. I find a disposition of the part of specialists to promise them too much. They return home disappointed because of the exceedingly sanguine prognosis of the ease when first seen. I treat ordinary ophthalmia and conjunctivitis and anything more serious I send to the oculist. I suggested to a case of mine, clearly cataract, that she consult an oculist, and mentioned one or two in the State. She went to the city of Tyler and fell into the hands of Dr. Brittain,—I don't hesitate to mention his name, I trust he is no kin to our friend

Dr. Brittain, of Arlington. Dr. Brittian promised to rub the cataract away, but she came home in a few days disappointed.

Now, another case of this same Brittain. There is a widow living next door to me, who for a number of years has been practically blind. I don't know what was the matter with her eyes. She went to Dr. Brittain, of Tyler, staying for quite a while—and I want to say the good people of Lindale raised the money for her treatment—she came home and my wife called to see her and said to me, "O say, you ought to see the old lady; I never saw anybody so badly butchered up in my life, and she is in such an alarming condition." I found that this poor woman had been scarified from the nape of the neck to the sacrum, and in addition had a dressing on the neck by the ear, where he had located the optic nerve. A dressing covering the entire head was ordered not be removed unless by himself. That is some of my experience, and in my humble judgment it is a great difficulty, because it enables such men as this man Brittain to travel around the country imposing upon patients. Now, if you gentlemen will pardon me for the allusion, one of the chief reasons that I wanted an intelligent, well considered law regulating the practice of medicine in the State of Texas is, whenever we general practitioners know that a man that is claiming to be an oculist or aurist or specialist in any line, we can send our patients to him and know that they will fall into honest hands. Now, Mr. Chairman, in regard to the question of general treatment for diseases of the eye, I live down in the malarial district on the Sabine river, and know more about malaria than anything else. Ordinary conjunctivitis in my daily practice is more readily cured by straight out treatment than any local application. I, however, use antiseptic washes, but give calomel and quinine just as if they had chills and fever.

EYE INJURIES COMMONLY ARISING IN GENERAL PRACTICE.

G. W. GROVE,

KANSAS CITY.

It is a common saying—and one worthy of acceptation—that ocular therapeutics is limited in the number of its drugs; for, in the vast domain of general medicine, it almost staggers arithmetic to enumerate the ever increasing lists of remedies used in the healing art. When one considers the eye, he can almost count on the fingers of one hand the agents required for judicious administration.

It is not the purpose of this paper to comprehend in its scope those hidden and deep-seated pathological conditions which at once lie within the domain of ophthalmology; but rather to deal with those conditions observed by the general practitioner, and those cases that often arise in his practice for advice and treatment. Two classes of cases are recognized, then, as falling at once within this field: 1. Contusions of the eye. 2. Wounds of the eye. A person may, in the dark especially, stoop to pick up an object, such as a shoe, article of dress, etc., and bring the eye in violent contact with the end of a chair-post, or bed-post. Resulting from this there may be observed an ordinary "black eye." It may be of such gravity that the family physician is consulted. (It is a common practice with the laity, in many affections of the eye, to apply poultices of various kinds, —as of tea leaves, flax seed, etc. Let me remark just here, that, with markedly few exceptions, poultices have no place in ocular therapeutics; they are a source of evil, and evil continually.) Now, in reference to such injuries, as from a chair, etc., as indicated above, usually about the best thing to do is to bathe the eye with cold water or apply cold

compresses. This is true also of those cases where the tissues of the orbit are contused from a blow of the fist or stroke of a base-ball, etc., or from collision of children while at play. The compresses, applied with some degree of pressure, are frequently soothing, and perhaps allay, to some extent, the extravasation of blood into the bruised tissues. These cases usually make an uneventful recovery. But with some of them, in a short time, such as two or three weeks following the injury, the patients report that vision of the recently injured organ is slightly or seriously impaired. The history and symptoms are at once strongly suspicious of detachment of the retina—a condition serious for the patient. The following cases are illustrative:

Sometime ago a man consulted me, saying that during the carnival in Kansas City he received in the eye a blow from a man's fist, with the usual result of "black eye;" that the eye shortly regained its normal appearance, but that in about two weeks after the damage vision in the injured member began to fail, and that in six weeks there was almost total blindness. Ophthalmoscopic examination revealed extensive detachment of the retina.

A second case, of somewhat similar history, except that the blow in the eye was from a snowball, showed rupture of the choroid.

A third case, a young man, had been hit in the eye by a base-ball, producing irido-dialysis, or a tearing loose of the iris in a portion of its attachment. Likewise such violence frequently dislocates the crystaline lens, or produces cataract or retrocession of the iris, either partial or complete.

In addition to the treatment above suggested, a boric acid wash—gr. x. ℥j—may be directed. No mistake can ever be made in ordering a boric acid wash for an eye; doubt may arise as to the propriety of other agents, but from this wash can come no harm.

In cases of injury to the iris, warm water applications are indicated, and in all cases where one is doubtful as to the charac-

ter of the injury affecting the deeper structures of the globe, it is safe to use a mydriatic, such as a 1 per cent. sol. atropia, or 2 per cent. sol. cocaine. On these two remedies, for a mydriatic, the oculist and the general practitioner have long relied. We know that these agents both dilate the pupil and lower the accommodation.

A little over two years ago, in this country, a drug, scopolamine hydrochlorate,—from scapalina atropoides—(a species of the hyoscyamus), was introduced into ophthalmic practice, which serves the oculist a splendid purpose. One drop in the eye of one-fifth per cent. solution—gr. j. ʒj—is usually sufficient to dilate the pupil, and two drops at an interval of 10 min. sufficient to completely paralyze the accommodation—reducing vision in 20 to 25 min. to its minimum value. I herewith exhibit sample. But the need of the general practitioner and of the oculist has long been an agent that would merely dilate the pupil for only a short time, and not affect the accommodation. I am glad to say to you that such a drug is now being introduced into ophthalmic practice, and into the work of the general practitioner. This agent is ephedrine hydrochlorate, the salt I herewith exhibit. It is derived from a plant, the *ephedra vulgaris* of Japan.

Before the Kansas City Academy of Medicine, October, 1895 (as reported in *Langsdale's Lancet*, January, 1896), in a resume of the physiological actions of this drug, I said:

"1. One drop in the eye of a 10 per cent. sol. will dilate the pupil in 10 to 20 min.

2. It dilates the pupil, but does not lower the accommodation. It lowers vision a little because of the spherical aberration arising from enlargement of the pupillary space.

3. The effect begins to disappear after about thirty or forty minutes, and is entirely gone in four to eight hours.

4. The solution is not painful; but produces slight smarting.

5. No bad effects have been observed.

6. Unlike atropia, it permits the pupil to respond fairly well when dilated.

7. It is not sufficiently powerful for use in iritis or synechiæ.

8. One drop of the above strength is usually sufficient for a tolerably full dilatation, in the aged eye, or in an eye irritable, as from conjunctivitis, the second drop at interval of ten minutes, is frequently necessary."

In the hands of the oculist this is a wonderful and valuable agent, and when the general practitioner shall have learned its purpose, he too will come to appreciate its virtues.

As to the second division of this thesis, comprehending *wounds of the eye*, we find increased interest in the subject, because of the fact that there is at once an enemy in sight, threatening the peace and safety of the visual organ. In the catalogue of ocular wounds may be noted *burns*, as from lime, grease, parlor matches, etc., the gravity of the case being increased if the lesion involve the cornea; if in the scleral section, or in the lids, the injury not so likely to menace the peace of the eye. The treatment for this class of injuries may be indicated, in a general way, by advising cocaine to lessen pain, vaseline as a lubricant; or if no pain, when seen by the physician—atropin. Cream, fresh milk from the cow or from the mother's breast, and fresh butter, unsalted, are simple remedies which may be of household value in emergencies—they are soothing, cleansing and lubricating, possibly antiseptic.

To the above class of lesions we may add superficial wounds of the cornea, such as pin scratches, finger nail scratches, and scratches from the claws of a cat, where usually only the corneal epithelium, or at most Bowman's layer is involved. Perhaps all of you are reminded of just such injuries coming under your own observation, where, at first, they appear simple and innocent, but later threatening. I have seen an eye threatened with ruin on account of the cornea being switched by a cows tail.

In these two classes of cases, consisting (1), of injuries as from lime, grease; etc., and (2), of pin scratches, etc., answering in a hypothetical case, I would advise the use of a 2 per

cent. solution of cocaine for both its anesthetic and mydriatic effect. For a lubricant and disinfectant, vasaline with about 3 gr. boric acid to ℥i; and for a cleansing and antiseptic wash, bichloride 1, 5000 parts of water; or boric acid gr. x. ℥i of water.

A third class of wounds presents itself for consideration: such as penetrate or incise the tunics of the eye—most frequently the cornea. If a scissor blade, needle, thorn, etc., pierces merely the cornea, making only a small wound, doing no violence to the integrity of the iris (although sometimes letting out the aqueous humor), with judicious attention, the eye usually does well. If the iris should prolapse into the wound, eserine ⅛ per cent. solution may be instilled into the eye in order to drag back the iris. This is a point worth remembering; for the mistake is sometimes made of using atropin. If the wound be at the middle of the cornea, and the iris free, use atropia; if the wound be at the corneal margin, instill eserine. These suggestions are simple, but important

The great danger in case of injury of the iris, is the impending ruin that threatens both eyes—the injured one liable to light up an irido-cyclitis and its neighbor, a sympathetic ophthalmia.

This classs of cases, especially requires judicious treatment from the start. Herewith I exhibit the eye of a child. This eye suffered a perforation of cornea at inner angle with injury of iris; for several weeks the case promised well. When I saw the case there was discovered sympathetic trouble; and unfavorable prognosis given. Consultation confirmed my views in the case, and I removed the eye. But the sympathising eye went on to destruction.

A second case—the eye herewith exhibited—a man, whose cornea was incised by a piece of glass. Three weeks after the damage, when I was consulted, I found the corneal wound holding in its grip almost the entire iris, and the eye hopelessly blind. The neighboring eye showed slight photophobia, with, perhaps, diminution of vision. I removed the useless eye that

was every day jeopardizing the safety of its neighbor. The result was satisfactory.

These two cases simply confirm the experience of every oculist present; and aptly illustrate the dangers arising from corneal wounds with involvement of the iris.

A resume of the subjects considered in this paper shows these general classes of injuries:

A. Contusions; as from blows; complicated sometimes by damage to the deeper structures of the eye, such as detachment or retrocession of the iris; detachment of retina, or choroidal rupture, etc.

B. Wounds. 1. Burns. 2. Superficial wounds; as scratches, etc. 3. Wounds that open the ocular tunics.

In closing, permit me to emphasize this point; in all wounds of the eye, whether superficial or deep, as a wash for its cleansing and antiseptic virtues, a weak solution of the bichloride of mercury is the *ne plus ultra.*

THE OCULAR EFFECTS OF LA GRIPPE WITH REPORT OF A CASE.

R. F. MILLER, M. D.,

SHERMAN.

As in every profession, so in medicine there are cranks and cranks. We have had the Brown-Sequard Elixir of Life cranks, the Koch lymph cranks. During the past few months the world has been shaken with the thunder of the Roentgen Ray cranks, and perhaps we may have the species known as the la grippe oculist cranks.

But I am not before the Association to-day to expound any new theory or practice, so I hope not to be listed with the cranks. At the same time I do not wish to saddle upon la grippe all those diseases to which the mortal eye is heir.

For the past seven years we have heard much of this disease, influenza or la grippe. The varied affections of the various organs of the body concomitant with it, and frequently their rare courses have baffled the skill of our best medical men, still the disease is a wonder to many.

This disease, though seemingly new to us in America, is not new to Europe. During 1838 and 1847, Russia went through a great influenza epidemic, and so often has this trouble swept over the land of the Czar that the disease has for a long time been known as Russian influenza. We believe that there is some bacillus peculiar to la grippe, and that it may be transmitted through the air. This seems evident when we find the occurrence of the disease far out at sea and the long jumps on land.

But I wish here to protest against the tendency of many of our doctors to use the diagnosis la grippe as a cloak for laziness or ignorance. In fact the term has been about as much abused

as the words "malarial fever." These days our patients rarely sneeze twice and blow their nostrils thrice that they do not forthwith claim to have la grippe, while many physicians accept the diagnosis.

But to-day our discussion will be limited to the varied effects of this disease upon the human eye. When we consider the localized complications of this peculiar affection, as in the study of every infectious disorder, we must be careful to distinguish the "post hoc" from the "propter hoc." There seems to be no relation between the severity of the attack and that of the after-effects. Nor has there yet been found any one ocular complication peculiar to influenza. From every country where the disease has occurred have come reports of varied eye affections resultant from this scourge. There are many forms and stages of severity. However, the assertion that influenza is an infectious disease will probably now meet with no opposition.

Among the purulent processes following la grippe we find diseases of the lids, conjunctiva and cornea, very frequent, then follow choroidal, iridochoroidal and various troubles.

Beaumont (Bath, England,) has reported three cases of blepharitis, five of conjunctivitis, in various forms, one of hypopion, one of episcleritis, two of glaucoma and one of corneal ulcer. Arlt reports an acute conjunctivitis with extreme œdema of the lids, and a case of ischæmia of the retina. Badel gives catarrhal conjunctivitis, blepharitis, eczema, hordeolum. Galezowski, episcleritis. Fage, dacryocystitis and abscess of the cornea with hypopion. Landolt, abscess of the lid. Guttmann, keratitis dendritica. Hosch, suppurative hyalitis. Everbusch and Adler, glaucoma. Fuchs, tenonitis with discharge of pus. Bergmeister, Scharpinger and Ehrlich, tenonitis. Laquer, irido cylitis. Nautanson, irido-choroiditis. Stedman-Bull, panophthalmitis. These cases have all been reported by careful students and must be accepted as authentic.

Leaving the purulent processes we come to the diseases of the ocular nervous apparatus, including the muscles, retina and the optic nerve. The grippal bacilli have a strong affinity for nerve

tissue and have been found in great numbers in these tissues post mortem.

We have all noticed the effect of the disease on the sensory nerves, with localized pain; on the nerves of special sense, and on the motor nerves, giving various paralysis. On the vaso motor nerves, giving the sensations of heat and cold. This neuritis generally is of the peripheral form, though rarely there have been fatal cases of central neuritis. The peripheral neurites present themselves in the shape of the following ocular diseases: Corneal herpes, anæsthesia, accommodative paralysis of the motor-oculi nerves, paralysis of the facial, retro-bulbar neuritis.

More post grippal cases have been reported under this head than under the suppurative. Beaumont reports three cases of asthenopia, two of paralysis of accommodation, and one of muscular insufficiency. Bergmeister and Galezowski have reported anæsthesia of the cornea; accommodative paralyses are reported by Gorecki and Bergmeister. Arlt reports a case of insufficiency of the internal recti. Badel, two cases of motor paralysis. In one the superior rectus, in the other the external rectus was affected. Under the head of retro-bulbar neutritis from la grippe, Dr. Weeks has collected reports of fifteen cases. These fifteen do not include cases reported by Ehrlich, Antonelli, Snell, Hartridge, Metoxas, Remak, Craddy, Stedman-Bull, McNamara (4 cases), LaBeau, S. Mitchell (2 cases), Gunn, Cross (2 cases), and McHardy (2 cases). This citation will be sufficient to indicate the many cases of severe ocular lesions following influenza.

At the same time the comparatively few cases of motor nerve paralysis reported warrant me in giving the following case from my practice:

January 9th, 1896, was consulted by Mr. N. E., 28 years of age; a swine breeder; intelligent and comparatively robust. He reported that until six weeks before he had never had the slightest trouble with his eyes. After a moderately severe attack of la grippe, beginning with coryza, fever, muscular pains,

a feeling of lassitude, confining him to the house for four days, and an increasing frontal headache, he found that things began to appear double, and he noticed that his eyes were badly crossed. On examination I found vesion in each 20-10, a hypermetropia of less than one degree, and an esophoria more marked in the left and of more than 30°. A diagnosis of paralysis of the externi, due to la grippe, was made, and the patient put upon an elixir of iron, quinine and strychnine, with triweekly applications of electricity at the external canthi. Improvement was satisfactory. Within three weeks the diplopia was unnoticed, and he began to read with comfort. An examination made at the end of eight weeks with a Maddox prism showed a very slight convergence, the two flames being separated by about three inches. At present his vision is perfectly normal and muscular equilibrium complete.

For the cure of the case I make no claim to honor, for I believe the recovery would have been just as rapid had there been no treatment. In fact the patient himself attributes his cure not to my treatment, but the use of a large dose of calomel. As I could not make him believe that his cure was due to my efforts, I cannot ask more of the Association.

SOME OBSERVATIONS ON THE EXAMINATION AND TREATMENT OF CONCOMITANT STRABISMUS.

VARD H. HULEN, M. D.,

GALVESTON.

It is generally conceded by ophthalmologists that the subject of "muscles" is the least understood of any in the ophthalmic science of to-day. It is a most interesting and an eminently practical one in all its phases, and any time given to the study of the ocular muscles will be well spent. It is hoped this is a sufficient excuse for the presentation of this paper.

It seems, from the varying statements made and the contradictory advice given by our foremost ophthalmic surgeons, coupled with their doubtful success in the treatment of many cases of strabismus, that there must be defects in the dealings with these most important cases. And, at least, one feature of the subject will bear more study: The examination of the eyes in strabismic patients. The examinations should be most thorough and complete in every detail. Without a correct understanding of the strength and activity of all the ocular muscles and an accurate knowledge of the refraction of the eyes, the proper treatment of the cases can only be guessed or remain unknown. A routine examination should be made in every case of strabismus.

After getting the name, address, age, and occupation of the patient, something of the family history, with that of past illness and injuries should be inquired about. The health and general muscular development should be noted. The symmetry of the face or lack of the same should be observed. The time and supposed cause of the strabismus should be asked, and the variety of the deviation should be determined, whether monolateral, bilateral or alternating, permanent, periodic, intermit-

tent, convergent, divergent, sursumvergent or deorsumvergent; at the same time the presence or absence of fixation in the squinting eye should be noted, and if fixation is present, whether it is central or eccentric.

Next in order, the strabismic deviation should be accurately measured. The most practical way of doing this is, as Landolt suggests, with the perimeter. Place the patient so that the deviating eye will be in front of the center of the arc, the other eye should be fixed on an object on line with the center of the arc, and at least ten feet distant. Then carry a candle flame along the arc until its reflection is seen to be from the center of the cornea of the squinting eye, and record the reading on the arc at this point. In case the eye deviates so far inward as to be behind the nose, a prism with the apex inwards may be placed before the eye and half of its angle added to the number of degrees shown by the perimeter. (This specially devised tape now shown you was frequently used in the operating room during my service in the New York Eye and Ear Infirmary for measuring the amount of deviations in squinting eyes, and being much more convenient than the use of the perimeter, is more practical for clinical work).

A careful study should now be made of the strength and action of all the ocular muscles. This is the most important and at the same time the most neglected part of the examination of strabismic eyes. The lack of information which this study gives is no doubt the cause of the failure of treatment in many cases. Both the operator and patient are sorely disappointed thereby.

Most all ophthalmic surgeons have seen cases where a tenotomy or advancement properly performed was followed by but little or no effect on the amount of the deviation. This is due, in some cases at least, to failure in discovering the offending muscle or muscles. It is well known that the muscle towards which the eye deviates is not necessarily the one in fault. An eye may converge, for instance, even where the externus as well as the internus is blameless. The author has seen one case

of marked convergent strabismus not at all affected by a tenotomy of the internus, but a tenotomy of the superior rectus brought the eyes parallel.

The excursions of the eyeballs should be studied with the greatest care, and, in addition to the methods commonly practiced for this purpose, there is nothing to equal Steven's tropometer. This instrument, recently perfected, consists essentially of a telescope in which the inverted image of the eye examined is found at the eyepiece, and its movements can be accurately observed, and by a graduated scale in the eyepiece every movement of rotation can be exactly measured. Repeated examinations of the movements of the globe in squinting eyes should be made and recorded for reference in determining the operation to be done and the muscle to be attacked.

In addition to the extent of the rotation of the eye, signs of undue strength or weakness of the muscles should be noted, for this is of importance in determining the advisability of a tenotomizing or an advancing operation.

The last examination to be made before deciding the treatment is determining the absolute refractive error in every case, and noting the effect of its correction by the use of lenses, for very few squinting eyes are emmetropic, and it is a settled fact in modern ophthalmology that the refractive condition of the eyes may have more or less bearing on their deviation from parallelism. It is unwise, to say the least, to operate on squinting eyes, and then refract them afterwards, as is not uncommonly done. The refraction should be done as accurately as possible before suspending the accommodation. This is especially true in cases with corneal maculæ. Then, unless the age of the patient renders it unnecessary, the refraction should be done after complete paralysis of accommodation by atropine. In doing refraction the use of the ophthalmometer is strongly recommended; it is especially useful in refracting without a mydriatic, and in children as also in refracting amblyopic eyes. Also in these cases skiascopy can be used with much advantage.

After the muscular condition of the eyes is understood, and

the total refractive error known, it is then time to consider the treatment. The object of the treatment of strabismus is threefold—the correction of the deformity, the improvement of the working ability of the eyes, and the procurement of binocular vision when possible. The latter is not often obtained, but when the vision of each eye is good it may be hoped for. After correction the vision of the squinting eye is improved in a few cases. Javal reports a case where the vision was so poor that the eye could not fix, yet by exercise the vision was brought almost to normal, so we should not despair of improving the vision in selected cases.

The first step in the treatment of strabismus is to give full correction for the refractive error of the least ametropic eye, which is rarely the squinting eye, and correct all the ametropia in the other that the eye will stand, which correction may be increased later to a complete one. The best results may be expected in young subjects, and in those with convergence and high hypermetropia, or in mild divergence with myopia, and with good vision in each eye. (The writer has seen a child less than two years old wearing glasses with apparent success.) No child under six or seven years of age should be operated upon unless the deviation is extreme, when a tenotomy may be done as a palliative measure, not expecting to correct the squint until the patient is older. The continued use of atropine can be recommended for young children, but the good effect of eserine, as is sometimes recommended in these cases, is doubtful.

It sometimes happens that the strabismus slowly disappears spontaneously as the child reaches the age of puberity, but the eye which squinted will be found to be amblyopic.

In the treatment of strabismus the exercise and use of the squinting eye to the exclusion of the other should not be neglected, both before and after operative procedures.

Every operation on the ocular muscles should be done with exactness and with a definite purpose and effect in view. It is also well to keep in mind that from a cosmetic standpoint it is better to have a little convergence rather than divergence.

At the present time there is a tendency, which is certainly in the right direction, to lessen the number of tenotomies performed, and do advancement operations oftener. A tenotomy of a weak muscle should not be done at any time, and wherever the muscular apparatus of the eye is weak the correction for deviations from parallelism should be done by some form of the advancement operation.

The manner or methods of performing tenotomies or advancements will not be discussed in this article. A synopsis of the indicated treatment is incompletely given.

1. Intermittent strabismus is rare, if there is any ametropia it should be corrected by lenses, and an operation done only when it becomes permanent.

2. Periodic strabismus, sometimes called incipient, is often cured by correcting the error of refraction, combined with the proper care of the eyes. If it becomes constant its treatment is that for permanent strabismus.

3. In convergent strabismus of the alternating variety, it will usually be found that the vision is good and the difference in refraction of the two eyes not great. It will also be seen that there is good muscular balance, although the inward rotation will be excessive. The participation of the superior rectus in the cause of the squint should be excluded before operating on the other muscles. An upward and inward rotation of the eye will sometimes indicate the involvement of the superior rectus. (*a*) If the convergence is not excessive a tenotomy of the internal rectus of the eye, which usually squints, should be done. (*b*) If this does not entirely correct the squint a tenotomy of the other internus should be performed. (*c*) If the convergence is very marked, and the effect of the first tenotomy not great, an advancement of the externus may be done at the time of the second tenotomy, which may be done on the same or the other eye. (*d*) In a few extreme cases tenotomy of both interni and advancement of both externi may have to be done before the squint is entirely cured.

4. In monocular convergent strabismus it will usually be

found that the refractive error of the two eyes is very different, and that the most ametropic eye is the squinting one, and it is often more or less amblyopic. (*a*) In these cases it is especially important to examine the superior rectus and ascertain what part, if any, it plays in the case. If it does participate a tenotomy of that muscle should be done first. (*b*) If the convergence be moderate only a tenotomy of the internal rectus should be done, if the strength of the extermus is normal. (*c*) If the case be very marked, or there be loss of power of the externus, advancement of this muscle should be done at the time of the tenotomy of the intermus. (*d*) Where there is an amblyopic eye, and the vision and muscular balance of the other eye good, it is advisable to confine all operative procedures to the squinting eye, even if the former operations have to be repeated to get the desired result, though in exceptional cases a tenotomy of the internal rectus of the non-squinting eye may be done subsequently to the tenotomy and advancement on the other eye.

Guy sutures are of use in some cases after operations for convergence, for if they do not actually abduct the eyes the tension from the suture tends to keep them from converging. The use of atropine for some time following the operations is especially advised in hypermetropic children to prevent the efforts of convergence.

5. For diverging strabismus and (*a*) in the mild cases associated with myopia, especially in the incipient stage, much may be accomplished by the proper correction of the refraction supplemented by systematic and persistent exercise of the interni with prisms, and by using the stereoscope with the special test cords. In the vast majority of cases of divergence tenotomy of the external rectus of the squinting eye will be necessary. (*b*) If the divergence is marked an advancement of the internus will probably be necessary. In doing the advancement operation it should be the aim to bring the eyes into the position of slight convergence. (*c*) In other cases of extreme divergence, where the externi are strong, and neither of the interni unduly weak, it will be best to tenotomize both externi at the same time, and

the valuable suggestion has been made to couple the two eyes together by a conjunctival suture introduced vertically and near the cornea to the inner side of the globe and tied across the nose, bringing the eyes into the position of convergence for from twelve to twenty-four hours. (*d*) When the divergence is due to a former tenotomy of the internus or the power of the internus is markedly diminished an advancement of this muscle should always be done, combined with tenotomy of its antagonist if it be contracted. Immediately after tenotomizing it is well to use Schweigger's forceps, and strongly rotate the eye several times in the opposite direction to its former deviation in order to stretch the tissues and break up any remaining fibres of the muscle which escaped the scissors.

6. Genuine cases of strabismus sursumvergens or deorsumvergens are very rare; and tenotomies of the superior and inferior recti are not as certain in their effects even as of the internal and external recti. Hence, an advancement of the weak muscle may be advisable in some of these cases. It is to be remembered that in the division of the superior rectus, by its association with the levator palpebræ superioris, there is a lifting of the upper lid as well as a depression of the globe.

There should be an interval of two weeks or more between the different operations on the ocular muscles.

It is to be understood that in every case where necessary correcting glasses for the ametropia are to be worn after the correction of the strabismus.

RELATIONSHIP BETWEEN DISEASES OF THE EYE AND BRAIN.

ROBERT FIELDS LE MOND, A. M., M. D.,

Professor of diseases of the eye and ear in Gross Medical College, Ophthalmologist to Arapahoe County Hospital, and Consulting Oculist and Aurist to San Anthonies Hospital, Denver, Colo.

The mutual relation between the organ of vision and the central nervous system, presents to us a field of study intensely interesting and of great practical utility, both to the physician, oculist and neurologist. This is a subject which has been overlooked to a very great extent by nearly all writers on ophthalmology, and to a more or less extent by the works on diseases of the brain and nervous system. The functional ocular disorders are of value to all physicians, not to oculists alone.

A frequency of diseases of the eye originating from brain troubles is a sufficient excuse to try and study out a closer relationship between the eye and brain. In the course of a somewhat extensive ophthalmic practice during the past few years, I have met with a number of cases which, to my mind, demonstrated beyond controversy that this relationship should be better understood, and from the fact that we know that in the multitude of council there is wisdom, so a desire to acquire a clearer understanding of this very difficult relation myself, was the paramount object in selecting this subject to present to this body of distinguished physicians of Texas.

About the year 1850, when the great ophthalmologist and scientist, Donders, who was then at his zenith in the development of optics, as regards the law of fraction, brought to light a term unknown, so far as its real significance was concerned, i. e., astigmatism, a term that is being understood in the present day by our school children. When this condition, astigma-

tism, is present only to a limited degree, aside from poor vision, we also have another symptom that is very common; that is super-orbital neuralgia, and oftentimes after continuous eye strain, we will have intra-ocular pain; but, if we have astigmatism to a marked degree, we will have not only the characteristic super-orbital neuralgia and poor vision, bnt we will have a breaking down of the structures of the eyeball and a hyperemic or congested condition of the whole organ.

Now, let us investigate the pain in this super-orbital region. Can we say that it is the eye that is hurting when we view this from a philosophical standpoint? The answer is very apparent. No; by no means. The eye, possibly, prior to this breaking down has been in a comparative state of good health, with total absence of any inflammatory condition whatever. We must conclude then that the brain, the great mother of the human organism, reasoning upon her child's deformity, concludes that it is better to withdraw the sentinels which stand guard and keep a faithful watch over this, one of her dearest children, the eyeball, shall be withdrawn, and that the impending forces will take charge and it at once breaks down.

We can see the beautiful provision in nature in doing this, for if the brain had not pursued this course, perhaps the continued headache, that has been long since a vexing obstable in this individual's way, might have been replaced by something more serious, the brain in reasoning upon this difficult subject, has decided that it would be better to make this eye sore and put it in a comparative state of rest. So after following out this course of reasoning we see that aside from a small eye trouble, the brain is now in a comparative state of rest, and is thereby better able to take care of and look after the well being of the balance of this system. But, in order to protect the inflamed retina and all the deep recesses in the mechanism of the organ of vision, the obicularis muscle has been commanded to shut out the light, while if this course had not been pursued, and this continuous pain allowed to have gone on, it certainly would have resulted at some time in a disturbance of the central nerv-

ous system, for there could be no question but what a continuous hyperemic condition of the brain encourages all inflammatory conditions of that organ.

Optic neuritis is a well defined disease of the eye, which in a vast majority of instances, points to brain complication. If a patient is suffering from continuous headache in optic neuritis, it is nearly always indicative of serious disease, but if you can exclude three constitutional disorders, i. e., anemia, kidney disease and lead poisoning, and the headache is accompanied by occasional vomiting, there is scarcely one chance in a hundred for it to be anything but a central lesion, possibly a tumor. Of course, the ophthalmoscope is the instrument without whose use we can never safely diagnose optic neuritis, it therefore should always be used in examining patients with severe headaches, for oftentimes it leads us at once to diagnosis.

I recently had a gentleman referred to me who had been suffering for seven or eight months with a continuous headache on one side more particularly, and he complained of dizziness, and sometimes would get sick at the stomach and vomit. He said he had been treated by various physicians, both in Europe and America, but without effecting a cure, and had concluded that there was no help for him, but in the condition I found him he simply could do nothing but go to the hospital and be treated. He was a little paralytic on one side occasionally, and would complain of numbness, his vision was $\frac{30}{100}$ in one eye and $\frac{40}{100}$ in the other but did not have any decided optic neuritis.

I had a neurologist to examine him and he diagnosed the case as abscess of the brain, and advised operating, which I did on the following day, finding a large abscess containing about one-half ounce of pus. I removed it and washed out the cavity with bichloride, 1 to 5000, several times. The wound healed nicely and patient made good recovery.

CASE No. 2.—A gentleman from a neighboring State was referred to me about one year ago. He was 37 years of age, strong, healthy, and seemingly robust, but his eyes were continuously troubling him, and he would have periodical spells of

almost complete blindness, suffered a great deal with headache, his gait was a little unsteady, yet his knee jerks were normal. The character of his trouble was more granular than otherwise, but not of a very pronounced type. I would say that his lids and the ocular conjunctiva were in a state of chronic hyperemia. I tested his eyes and found that he had some astigmatism, but not to any very marked degree, and so I told him that I thought it was only a matter of a short time when I could relieve him altogether of his ocular disturbance, and after I had treated him some three weeks I noticed that he was neglectful about keeping a promise, and careless about being treated, and the superior lid of one eye seemed to drop occasionally. I had a neurologist to examine him with me and be believed, as in the other case, that abscess of the brain was the trouble. Three days later the patient lost all consciousness and died in great agony.

CASE No. 3 was a lady 43 years of age, who was referred to me several months age, suffering with continuous headache and an inflammatory condition of her eyes. On using the ophthalmoscope I found she had a marked degree of neutritis in both eyes. After finding some little unsteadiness of gait and a failure to stand erect, with her feet together, and eyes closed, I concluded that her trouble must be of central origin. She did not complain, strange to say, of the bright lights hurting her eyes, yet her vision was only about five per cent. in each eye. I put her on a course of treatment, and after seeing her the second time, I saw that she was growing worse, so I decided it was useless to have her visit my office longer. She lasted some three weeks and died, and by the persuasion of the family doctor and myself, the family consented to an autopsy, and we found in the fourth ventricle a large tumor.

Optic atrophy, when not a sequel of neuritis, is invariably a good indication of some disease of the central nervous system. If I were to attempt to describe all the various forms of atrophy on this occasion, I would not have time to touch upon other points of interest, so I will only mention the progressive forms as being especially destructive.

It matters but little whether it is from sclerosis, locomotor ataxia, syphilis, or embolism of the central artery. We sometimes have compression caused by hemorrhage, and sometimes by tubercular masses, hydrocephelas and neoplasms, which are all more or less conducive to atrophy of the optic nerve. When we find we have a case of atrophic degeneration of the optic nerve to deal with, we want to be sure to measure the amount of, and take the field of vision, and also test for color preception, for if it is a well-defined case of atrophy of the optic nerve, there will be scarcely a doubt but what you will find wanting color perception and a contracted field. But there is one symptom that is, indeed, very valuable in this disease, and that is the reaction of the pupil to light is lessened in diseases of the nerve, but not in diseases of the brain.

Aneurism is sometimes the cause of optic neuritis, but it is a very rare thing to find an aneurism near the optic nerve; complete loss of sight of one eye and sometimes extending to the other eye, which may cause complete blindness, sometimes occurs without any seeming disturbance whatever, so far as pain or nervous disturbance is concerned, and the only symptom present being that of continuous failure of sight. In the beginning of troubles like this we may have present hemianopsia, which is a permanent defect of half of the visual field of both eyes. This likely is caused from some pressure on some part of the optic tract or chiasm, or it may be from a functional disturbance in one or the other of the cerebral hemispheres, hemianopsia, either monolateral or bilateral, the former which means the temporal half of one eye and nasal half of the other eye, the latter means the external half of one field and the internal half of the other. Bitemporal hemianopsia, loss of the outer half of each field of vision, always means damage to the internal half of each nerve in front of the chiasm, and this would necessarily injure the fibers of each nasal half of the retina, the complete loss of one eye and the other remaining undisturbed, points directly to the derangement of the nerve between the chiasm and the external part of the optic foraman.

Inequality of pupils is usually a strong indication of a lesion of some character in the neighborhood of the optic tract, provided it has not existed from childhood. We have a number of things that might produce this trouble, resulting from any of the severe sieges of sickness like scarlet fever, diphtheria, typhoid fever, and sometimes cerebro-spinal meningitis. If the pupillary inequality could not be traced to some different cause, like I have mentioned, I would then investigate for inter--cranial complications.

Hemorrhage, sudden homonyous hemianopsia is a common and very valuable symptom of an effusion of blood into the brain tissue, it is the only sign of such occurrence. The defect in the visual field is, of course, always on the opposite side from that of cerebral lesion, the kind and form of hemorrhage furnishes distinct evidence of the situation of the lesion. Exceptional cases are on record, however, in which the course of the optic fibers in the desussation seem to be the reverse of the general rule on which the outer fibers crossing to the opposite eye.

TUMORS OF THE BRAIN.—Cerebral tumors may attain a large size aud yet be of very slow development before any marked disturbance will be occasioned from pressure. The symptoms fluctuate in severity in accordance with the circulation in the neighborhood of the immediate growth.

ABSCESS OF THE BRAIN.—The symptoms of cerebral abscess are only similar to those produced by tumors, to which are added the inflammatory phenomena of purulent infection. Optic neuritis is one of the most conspicuous symptoms, and is present in the great majority of instances.

ENCEPHALITIS.—Diffused inflammation of the encephalon gives rise to irritation and pressure, symptoms of sclerosis, the pupils are always sluggish and dilated, and sometimes are very nystagmic. Of course, the vision is subnormal.

INSANITY.—The ophthalmoscopie findings in most mental diseases are neither constant nor definite, subjective sensations and visions are of common occurrence among the insane. They are due to irritation directly or indirectly of one or the other corti-

cal sight centers, and differ from illusions in the fact that the sensation in the latter phenomena while the judgement is at fault. A curious feature of hallucination is the pupillary contraction and dilation as the imaginary object approaches or recedes. This is due to the motorial activity of the visual cortex.

PARETIC DEMENTIA, the essential ocular feature of progressive paralysis, often constituting the initial symptoms of the disease or the muscular disorders. These consist of simple or combined paralysis of temporary duration usually, but prone to relapse.

In conclusion, I thank the Secretary of the Association very kindly for extending to me such a cordial invitation to be present and read a paper on this occasion.

DISCUSSION.

DR. J. A. MULLEN, of Houston: I have instructively listened to Dr. Le Mond's paper and forcible reiteration of the importance, both to the general practitioner, oculist and neurologist, of always bearing in mind the intimate relationship between diseases of the brain and the eye, for in many instances the diseased condition of the eye is truly an extra-dural manifestation of some pathologic state of the brain. The deeper we advance into the structure of the eye, in an ophthalmoscopic examination, the more certain are the diseased changes of the nerve indicators of a pathologic deposit in the brain tissue.

In a case of akromegalia, which I observed for over a year, the optic atrophy was *pari passu* with the kyphosis, enlargements of the extremities, thus clinically demonstrating the dependency of the ocular changes upon the enlarged pineal body.

Several continental authors claim that 70 to 90 per cent. of the brain tumors produce some grade of optic neuritis.

I would strongly advise, in all cases of atrophy of the optic nerve, to be especially careful in getting a complete history, to enquire about blows, falls, etc., on the head, and if there be any spasms or paralysis of the extremities, exercise cautiously all the means at our command in localizing the cerebral tumor, etc.

Again, following up the line of thought suggested by Dr. Le Mond, a man 32 years of age was referred to me on account of double vision; the latter taken with lowered V. 20-80, and beginning optic atrophy

immediately, suggested some grave nervous disorder. The patient had incipient locomotor ataxia. Too much attention, in my opinion, can not be given to this relationship, and I am exceedingly grateful to Dr. Le Mond for having presented this subject in such an admirable and instructive manner, and also for calling the attention of the society to how great are the eyes as external indicators of abscess, tumors, etc., of the brain.

Gentlemen, I can not close the discussion in better form and epitomize the doctor's remarks more clearly than by giving the advice of Fuchs, "*accordingly in every case where there is a suspicion of the existence of cerebral affection the fundus of the eye should be examined with an ophthalmoscope.*

REPORT OF A CASE OF EPILEPSY DUE TO NASAL OBSTRUCTION.

FRANK C. TODD, M. D.,

MINNEAPOLIS, MINN.

G. L., aged 17, a farmer's boy, was referred to the author January 8th, 1895, by Dr. Capps, of Fort Worth.

The boy had been suffering with epileptic attacks for about two months. The attacks had occurred almost daily, and sometimes more frequently. They were growing in frequency and severity, and the boy had reached a point where he threatened to commit suicide.

The fits were always preceded by an aura—a feeling of lightness in the stomach, which passed up to his head in the frontal region, when, as he expressed it, it would "knock" him down. These attacks usually lasted a half hour or more, and he said he did not always become unconscious, though there is reason to doubt this statement. The patient complained of having occasional headaches in the region of the temples and over the eyes, and also of slight dizziness. No other asthenopic symptoms could be elicited.

Examination of his eyes under hematropine revealed only .25 D. hypermetropia and .25 D. hypermetropic astigmatism axis 180° in each eye. The ocular muscles were orthophoric. It could hardly be expected to obtain any beneficial results by the use of the glasses, but it was thought best to try them, and the full correction was prescribed. Meanwhile, under Dr. Capps' direction, he was taking bromides, and his attacks lessened in frequency. However, about a week after the glasses had been adjusted, he caught cold in his head, and suffered intense pain in the region of the frontal sinus, which had to be relieved by morphine. At the same time his attacks returned with renewed

vigor and frequency, always preceded by the severe frontal headache, though no more stomach sensations were noticed.

While in the office one day during this period he had an attack, and particular attention to his symptoms and actions revealed the fact that the severe pain was referred to the frontal sinus, more pronounced on the left side, which region for a week after was observed to be very sensitive to touch. During this attack he became unconscious.

Subsequent examination of the nares revealed a large ecchen drosis almost completely closing the left passage. In fact, at this time, when the tissues were swollen, he was unable to breathe at all through his nostril. The post-nasal space was clear, but there were evidences that adenoids had formerly existed, and he had been a mouth-breather.

The diagnosis was made of frontal abscess, left side and ethmoiditis. By the use of a spray of a 4 per cent solution of cocaine, the swollen tissues became so contracted that the pus could escape from the frontal sinus, and the inflammation, with its attendant symptoms of pain and soreness, gradually subsided, and in two weeks there was no tenderness. With the subsidence of the inflammation his attacks disappeared.

An attempt was then made to cocainize the tissues, preparatory to removal of the tumor, but he showed a peculiar susceptibility to the use of a stronger solution of cocaine applied for a longer time, which will be mentioned later, and it was concluded best not to attempt its removal until chloroform could be administered. Accordingly, on February 27th, under general anæsthesia, the tumor was removed by the use of the saw. The next day an inspection was made back of the site of operation, and it was observed that the whole of the middle turbinated bone was adhered to the septum, evidently as the result of an inflammation; and that posterior and superior to the spur removed, there was another smaller spur which completely occluded the parts where it was situated. This spur was removed after anæsthetizing with a four per cent solution of cocaine

combined with carbolic acid, atropine and digitaline a week later and the old adhesions broken down.

After the first operation he had but two attacks, and these occurred within a few days after operating, and were attributed to the pressure caused by the cotton tampons which had been used to prevent adhesions. Since removing the cotton permanently he has had no return of his headaches nor epileptic seizures, and has been gaining in strength and weight.*

The bromides were discontinued, and he has since been taking only a tonic.

This is not the first case of this nature reported, by any means, and yet epilepsy due to nasal obstruction does not seem to have received much attention in any of the text-books, while in the majority it is not even mentioned.

The peculiar idiocyncrasy before alluded to, which he showed when a ten per cent solution of cocaine was applied on a pledget of cotton was worthy of note.

The patient dropped right off to sleep in his chair, and though he could be easily awakened, he would fall to sleep again immediately, and it was impossible to keep him awake. Whisky was administered and he was allowed to lie down. He slept for several hours a natural sleep and showed no after effects. Pulse and respiration were normal.

Cocaine poisoning symptoms are usually manifested in almost the opposite manner, namely, spasms, muscle twitching, weak pulse and nausea.

---

*Since the above was written he has been working hard on a farm, and when last seen by the author—in June—was still improving, and had had no attacks.

FUNCTIONAL IMPAIRMENT OF THE AUDITORY CENTER AS THE RESULT OF CATARRHAL DEAFNESS.

J. ALOYSIUS MULLEN, M. D.,

HOUSTON.

In otology, the treatment which is most applicable in chronic catarrhal deafness for the restoration of hearing, and at the same time one of the most productive of salutory and permanent benefit, is by far the most perplexing and unsatisfactory question presented to us for consideration. More particularly is this so in regard to the summing up of the indifferent results that ordinarily follow the most conscientious and scientific course of treatment; also the minimum amount of good accruing to our patients frequently so imperceptible that its presence becomes conspicuous by its absence, and impresses us with the fact that the means at our command are painfully inadequate, and fall far short of our hopeful expectation.

It is to be hoped that the suggestions here thrown out may serve as useful and expedient adjuncts to our generally accepted treatment rendering it more serviceable, and bringing about by their general application more permanent results; and not just as soon as the treatment is discontinued that the deafness returns in a disagreeable number of cases, the patient becoming our professional Nemesis for life.

It is extremely unsatisfactory, after having resorted to local applications, middle ear medicated inflations, dermal use of electricity, naso-pharyngeal and intra-nasal medication, that the patient should return, in a great proportion of cases, suffering from the previous catarrhal deafness, slightly mitigated to be sure, but still with an appreciable curtailment of his auditory sense.

In a fair percentage of these cases it is rational to suppose that the ungratifying results are not invariably due to any failure in the proper medicinal and mechanical applications at hand, and to the use of the same; or to the incompleteness of the technique of aural surgery, but are due, for our purpose at least, to two causes—one acting locally, centripetally as a mechanical obstruction or pathological entity, the other entirely centrally, purely cerebral, and functional in character, not being directly connected with any portion of the temporal ear. The first cause may act anywhere between the auricle and the point of entrance of the terminal filaments of the posterior division of the internal capsule at the auditory centre; it is a very prolific source of trouble, being manifested as follows: Retraction with thickening or thinning of the membrana tympanum, and adhesions of the latter to the walls of the tympanum, tumors and atresia of the external auditory meatus, stenosis of the aural safety tube, purulent, serous or catarrhal exudate of the middle ear, false membrane on tensor tympani tendon or atrophy, fatty and fibrous degeneration of its muscular tissue, more or less numerous vicarious deposits of inflammatory tissue, whose arrangement partakes of the miraculous; permanent agglutination of the stapes to the ovale window, and the occasional presence of otolithic concretions with the slightly more frequent hyperostosis and filling up of the tympanum by lymph and infrequent involvement by continuity of the labyrinth and cochlia.

Any and all of these, and other not mentioned mechanically obstructive causes, by interfering with the free transmission of wave sounds, can break the auditory circle and materially obtund physiological cerebral hearing.

While we are confident of removing tumors, atresia, etc., hopeful of draining the purulent, serous or catarrhal inundated middle ear, expectant of allaying the inflammatory conditions producing stenosis of the Eustachian tube, we are less sanguine of rendering patent the elasticity and freedom of motion in the ankylosed joints of the tympanic bones, or of the absorption of the vicarious fibrous adhesions seriously impeding and dispers-

ing the sound waves to the sonorous cavities of the middle ear. The auditory circle, although not so permanently settled upon as the optical circle, is, however, sufficiently clear to enable one to trace with considerable accuracy a sound wave along its path of transmission to the center of audition.

Wave sounds are first collected by the auricle with inclination of the listening ear for transmission to the external auditory canal and membrana tympanum, the latter being sent into vibrations by the impacts of the wave sounds; the impulse is then conveyed to the chain of bones across the middle ear cavity to the membranum ovale, which in its turn produces rymthmical vibrations of the labyrinthian fluids, sensibly affecting the end organs of corti, the result of which there is conveyed along the auditory nerve (cochlear branch) to the ventral nucleus, and to the tuberculum accousticum by one route direct across the raphi to the fillet, and by another through the corpora trapezoides to the superior olive of the opposite side, a juncture is effected at the fillet, thence through posterior corpora qaudrigemina traversing the brachia conjunctiva posterioris to reach the geniculate body, finally passing along the posterior division of the internal capsule to eventually terminate in the cortical center of audition as a physiological culmination of hearing.

From this more or less incomplete cycle it can be readily conceived that any obstruction primarily with the complete or partial collection of wave sounds, and secondarily with their uninterrupted conveyance for the production of rhythmically vibrating the fluids of the labyrinth; and thirdly, any pathological condition internal to the tympanum; i. e., as the cochlea labyrinth, etc., any pressure, solid or fluid, upon the eighth nerve, its nucleus or fibers of communication with the cortex will partially or completely cut off auditory communications from the center of hearing.

A break in the continuity of any portion of this most intricate arrangement for the transmission of wave sounds would radically preclude the possibility of the complete enjoyment of normal audition; in other words, the aural pathway would be-

come impassible, and the delicate sound intonations would fail to arrive at their destination for appreciation and interpretation. The second cause, to which reference has been made, is purely cerebral in character, associated with, but dependent for its birth and existence upon all the pathological findings in chronic catarrhal disease of the middle ear, or atresia of the external auditory canal; it would seem to be a result primarily, but secondarily becomes a patent factor, ever acting and vigilant to misdirect and frustrate all our well directed efforts for the amelioration of the conditions which so much harass the catarrhally deaf.

It is a very conspicuous fact, and its general prevalence made apparent by simply referring to it, that persons who have become deaf from chronic catarrhal inflammation of the middle ear are habitually indifferent to the small daily occurrences in which it is the duty of audition to appreciate and interpret. They are, as it were, isolated from the world, one avenue for procuring knowledge entirely cut off, and so far as the sense of hearing is concerned, they are dead among the living. To be sure, there are times when there is a temporary awakening, the means for the production of which are always at hand, and easily procurable, but they are never utilized solely for this purpose, but are incidental to the noises of the itinerant.

When any part of the body is either mildly or severely injured, and there intervenes a period of suspension of use during which time the injured member is rendered by the disability unable to perform its accustomed work, then there follows a gradual but steadily progressive return of the temporarily lost function of the member to its pre-traumatic utility, the completeness of the latter depending upon the degree of damage sustained.

The infant learns to walk and stand erect unaided by the complete education and full development of his co-ordinating powers, only perhaps to be reduced to his infantile level at puberty perchance by an attack of typhoid fever, after which he

must again pass through the cycle of re-educating his co-ordinating sense.

Again considering concomitant convergent strabismus in the young hypermetrope in which the squinting eye, according to Schweigger, has become amblyopic from lack of being synchronously used with its fellow of the opposite side, and if which when first detected had been properly corrected, its functional activity would have been secured; but as time rolls on its use is annihilated.

Going still further in our search for illustrations exemplifying the fact that complete or partial cessation of functional activity in an organ is normally followed by the return of the function to its former virility, providing the cause have been removed, or is not active in its interference with the physiological use of the organ.

Now, then if this loss of function of an organ extends over a long period of years, the organ gradually loses the faculty of its existence and the subsequent restoration of its complete functional power is impossibe.

If the loss extend through successive generations, dame nature gives us an illustration in which not only is the function forfeited, but the organ itself receives no embryological stimulus, and is dropped from the economy. The piscatorial inhabitants of the Mammoth Cave, Kentucky, afford a living epitome of this universal law.

If this complete loss of function, and the non-development of the organ can be produced by natural laws, no one will surely attempt to deny that there is not a greater possibility of the gradual loss of function occurring when incited by some pathological inhibitory condition, such as the changes in structures and position the result of *otitis media catarrhalis chronica.*

Suppose for example, we have a case of double traumatic cataract, the patient grows to manhood without either opaque lens being removed; in the interum objects are seen by others, but not by him, the sun shines brightly to others, but alas dimly to him. The cause of this blindness is apparent; objects

cannot be focused on the retina, consequently all cerebral vision is precluded; the visual center has not seen in years, and when once more the flood gates of light are opened, the brain fails to interpret the objects thrown upon the retina, sensibility of the latter has gone, the function of the visual center is lost forever.

We are all quite familiar with the fact developed not many years ago in the education of deaf mutes to produce articulate speech, that all children seemingly born deaf and dumb were not necessarily dumb, as the happy results of education demonstrated. But, in many instances, because their speech center had no means by which it could functionate, and further failing to receive supplementary assistance of the auditory center, it had never been awakened into functional life. The marvellous results and the future possibilities of articulate speech among these poor unfortunates have done much to direct and stimulate intelligent energy in this humane departure of education.

We have a further illustration in Tommy Stringer, of the Perkins Institute (Perkins Institute report 1895, Boston, Mass.), who though born blind, deaf and dumb, still has been educated to use his speech center, and he like the person with double infantile or traumatic cataract, would have lost the faculty of developing his speech center from non-use if no efforts had been made to exercise, as in the former case.

It is to this gradual inhibition of functional activity operating in the catarrhally deaf that the most of the unsatisfactory results in our treatment are due. The center of audition has been in a sporific condition induced by the mechanical obstruction offered to the natural and ordinary avenue of keeping it in auditory touch by ariel conduction.

To render this modus operandi more apparent, suppose the ordinary case of chronic middle ear catarrh is followed through its various general stages in its abolition of hearing. There may or may not be present the results of an inflammation of the cavities of the upper-air passages; there has been a gradual inception, conscious or insidious of a catarrhal inflammation of

the tympanum, which has left its structural changes in a more or less completed condition. There is felt tinnitus aurium in its diversified presentation, permanent or temporary, depending upon the retraction of the membrana tympanum and inward pressure of the conducting ossicles with the formation of vicarious fibrous tissue, which in its history of contraction, forces the ear-bones out of their line of conductive continuity. The mucous membrane of the tympanic cavity has undergone various pathological changes, the labyrinthian fluids are being pressed upon into a smaller space, constant irritation of the terminal filaments of the portio mollis is the result.

The whole intra-tympanic portion of the auditory apparatus has undergone positional and pathological changes and more seriously it has lost its functional activity for constantly transmitting aural waves.

Instead of being free and movable, capable of instantly transmitting sound waves, well primed for functional activity, the drum is retracted adherent to the tympanic walls, its anatomical features hardly recognizable by the pathological ravages, and the avenue for the transmission of wave sounds perceptibly cut off. If this mechanical obstruction persist for years, the inevitable result will be the gradual loss of the sensitive functional appreciation of the end organs of corti,—the channel by which the wave sounds are transmitted is now transferred to the cranial bones, and bone conduction has been substituted for aeriel conduction.

As non-use inhibition, or loss of functional activity in the extremities is followed by atrophy, the degree of which depending upon the length of time and degree of the impaired or lost function, the suggestion becomes pertinent that the same process may also occur in the auditory center after years of functional non-use.

The writer is not aware of any post-mortem evidence to substantiate the supposition of atrophy of the auditory center from non-use, nor has he ever known of any examination of the cerebrum of persons for years catarrhally deaf.

No authority, *en passant*, refers to functional obtundity of the auditory center as a result of a long continued mechanical obstruction, the effect of chronic catarrhal inflammation of the middle ear, and in no authority at hand is found any reference to the utilization of this fact as a means for the cure or amelioration of the state of catarrhal deafness.

Deuch, L., states (Disease of the Ear, 1895, p. 70): "If the nerve is allowed to remain inactive for a long period, as where serious obstruction to sound conduction has rendered the ear of little practical use, it is found that ever after the removal of the obstruction and the restoration of the conducting mechanism to a normal condition, the function of the ear is imperfect from the fact that the nerve, writer's italics, has been so long at rest that it is not able to subserve the purpose for which it was designed." The quotation is complete and further substantiates the loss of function, only we are of the opinion that the obtunded function is in the auditory center, and not wholly in the portio mollis.

The question which naturally arises, and one which interests us the most at this stage of the inquiry, is how far is it possible and practicable to apply our deductions so that a permanent improvement of hearing in the catarrhally deaf may follow the removal of the mechanical obstruction whether by non-operative or operative means?

The first step in the application is only applicable to the patient; he must be impressed with the fact that he can be of inestimable assistance to us in our efforts to restore his hearing acuity; he should be directed to cultivate the habit of listening for sounds, principally those of conversation, no matter if the subject be of any interest to him or not, the object to be gained is that by the constant use of his concentrated and fixed attention to spur into activity and functional life the sleeping auditory center, and at the same time suggesting to him that he converse in a louder tone, so that he, as it were, will be heard by himself, for, as is well known with the gradual loss of hearing, there likewise ensues a progressive change in the character and

intensity of his voice, until finally he is neither heard by himself, and with difficulty by anybody else.

The constant application of the will-power will bring about the concerted action of the supplementary senses,—this inducing a more active mentation which can only have a salutary effect in stimulating the center of hearing to a lively appreciative sense.

The general usefulness of this procedure will depend in a great measure upon the complete or partial removal of the mechanical obstruction, such as impaction of the stapes to the foramen ovale, retracted and adherent membrana-tympanum, ankylosis of the middle ear, bones of the articulations, and it naturally will be of more utility in those cases where the drum, or one or all of the ossicles, have been removed to overcome the obstruction to sound waves. It is of very great importance in soliciting the patient to exert some effort to control his attention to bear in mind the five laws (thinking, feeling and doing. Chatauqua Series, 1895. E. W. Scripture, Ph. D.) which control and regulate attention:

1st. Bigness regulates the force of attention.

2nd. The intensity of the sensation influences the amount of attention paid to it.

3rd. The degree of attention paid to an object depends on the intensity of the feeling aroused, liking or disliking.

4th. The state of expectancy.

5th. Law of change, the degree of attention depends upon the amount and rapidity of the changes.

The individual application of these laws will depend upon the mental and mechanical ingenuity of the physician, and the thoroughness with which he understands the case.

The next step can be used by the aurist only, and consists in external means for the excitation and stimulation of the hearing center by the use of galvanism through the intervention of the auditory nerve. Galvanism can be utilized for local use by one of two methods (Practical Treatise on the Medical and Surgical Uses of Electricity. A. D. Rockwell, M. D., N. Y., 1886, p.

591), either the internal or external application. The internal method consists in the placing of the electrode in the external auditory canal immersed in warm water, solution salt or plain, according to the apparatus of Duchenne,—the other electrode is held in the hand of the opposite side. The external differs from the former in that the *electrode is strongly pressed on the tragus*, with the other electrode in the hand of the opposite side. The current should not, under any circumstances, be strong, but must be mild and quickly interrupted; six milliamperes strength is best for a standard, increasing or decreasing the current as desired. The daily *seances* should not be longer than five to ten minutes; a much shorter time will answer in some cases. Galvanism should not be used unless a rheostat is included in the circuit. The selection of either pole for introduction into the external auditory canal is not a matter of much importance from the fact that "reasoning a *priori*, it would be inferred that the reaction of *hyperæsthesia* would call for treatment by the anode (positive) and the reaction of torpidity (anæsthesia) for treatment by the cathode (negative); but experience shows that there is no uniformity to this law 1. "*The positive (anode) pole is on the whole the more calming, and the negative (cathode) the more irritating.*" (Op. cit., pp. 598and 599.)

With the hope of procuring some data as to whether there had been observed an invariably rapid return of hearing in those cases where catarrhal deafness had existed for only a short time, and in whom the drum or ear-bones had removed, thereby doing away with the mechanical obstruction; also, if in those cases where the deafness had been present for a long period, and in whom there had also been an excision of the membrana-tympanum ear-ossicles for a similar purpose, had there been noticed an extremely slow improvement in the hearing up to a certain point, or if the former persistently held its own, or finally receded to its previous stage of obtundity.

Drs. C. H. Burnett, Samuel Sexton, E. B. Deuch, etc., had not observed any such ratio. (Personal correspondence.)

SECTION ON DERMATOLOGY.

REPORT OF CHAIRMAN GEO. H. LEE, M. D.

GALVESTON.

GENTLEMEN:—It is not the purpose of the chairman of this section to offer any apology for asking your attention to the subject of dermatology. No branch of medicine is of more importance to the general practitioner, though, as a matter of record, it has received the least attention. Certainly no organ in the body is more capable of profoundly influencing the general economy than the skin. And while its diseases are not attended by much fatality, yet there is no field in which a careful, painstaking, thorough diagnostician will encounter nicer problems, and problems which have a direct and more intimate relation to successful treatment. In dermatology the clinician has the picture spread out before him—a written page, wherein close observation and careful analysis of objective symptoms should lead him accurately to correct indications, or at all events to an intelligent conception of the character of the affection.

It is neither necessary nor proper that the importance of subjective symptoms should be overlooked, but it is especially in diseases of the skin that the knowledge gleaned from a careful consideration and accurate observation of objective symptoms is valuable. The character of the eruption, whether elementary or consecutive, macular, papular, vesicular, pustular, or other lesion; whether a number of different lesions, the mode of onset, the course of development, the color of the lesion, its situation, grouping, distribution, and a number of other features are worthy of note.

It is remarkable how little interest the practitioner, who is so careful in his diagnosis in other fields, will evidence in deter-

mining the nature of a skin affection. Be it acne, impetigo, an unusual variety of tinea, a non-specific dermatitis, a lichen, or a rare form of psoriasis; it will travel comfortably under that stretchable term, that pons asinorum of dermatology,—eczema.

Now, as we all know eczema is a specific dermatitis just as clearly defined from other inflammatory diseases of the skin, as typhoid fever is from other fevers. Further, it is an affection in which intelligent diagnosis has a positive and direct relation to intelligent and successful treatment; where, indeed, intelligent treatment would mean an amelioration of symptoms, and a cure; while means improperly adopted would yield only aggravation and disappointment. As a most necessary condition precedent to a proper diagnosis, we must consider proper classification. Not such a classification as would group diseases into those which can be ameliorated and cured, those which can be simply benefitted; and those which cannot be affected by treatment, but a classification founded on proper principles, not necessarily satisfactory, yet sufficiently so to be practical; such as that of the American Dermatological Association will answer. In this, as you all are aware, diseases of the skin are divided into eight classes, viz:—

Class 1—Disorders of the glands.
Class 2—Inflammatory diseases.
Class 3—Hemorrhages.
Class 4—Hypertrophies.
Class 5—Atrophies.
Class 6—New growths.
Class 7—Neuroses.
Class 8—Parasitic affections.

This classification is rendered more useful and more practical by further subdividing class No. 2—inflammatory diseases—excepting the exanthemata, which are, strictly speaking, not diseases of the skin, but specific fevers exhibiting characteristic skin lesions, and for that reason best considered by themselves, into groups according to the peculiar lesions or lesion of the special affection, viz:—

A—Exanthemata.
B—Affections characterized by polymorphous lesions.
Eczema.
Erythema multiforme.
Dermatitis (including all other forms not otherwise classified).
Dermatitis, herpetiformis or multiformis.
C—Affections exhibiting macular lesions.
Erythema.
Erysipelas.
D—Affections characterized by Pomphi or Wheals.
Urticaria.
Urticaria pigmentosa.
E—Affections in which the lesions are papules.
Lichen planus.
Lichen ruber.
Prurigo.
Acne vulgaris.
F—Affections with vesicular lesions.
Herpes simplex.
Herpes zoster.
G—Pustular affections.
Furunculosis.
Pustula maligna.
Ecthyma.
Sycosis.
Impetigo simplex.
Impetigo contagiosa.
Impetigo herpetiformis.
H—Squamous affections.
Psoriasis.
Pityriasis ruber.
Pityriasis maculata et circinata.
Dermatitis exfoliativa.
I—Affections in which the lesions are bullæ or blebs.
Pemphigus.

A very large percentage of skin affections, as shown by the statistics of the American Dermatological Association, are inflammatory diseases. In our southern clinics the parasitic affections rank next in number. It is usually not difficult to determine whether or not the special case under consideration should be classified in one of these groups. A functional disease, an atrophy, an hypertrophy, a neurosis, or a new growth, each exhibit striking characteristics which usually lead to clear diagnosis. In differentiating an inflammatory affection from a parasitic disease the lines are frequently not so clearly drawn. Indeed, both may be present, the one occupying a causal relation to the other. In well marked cases the peculiar characteristics of the special affection may be noted. On other occasions the microscope will definitely settle the point at issue. Having determined that the special case is an inflammatory disease, then a consideration of grouping I have suggested in connection with the peculiar lesion present will probably be of some aid.

In the Dermatological Clinic at Galveston the dermato-mycoses form quite a large percentage of the cases. The microsporon-furfur is seen very frequently. Tinea favosa is not uncommon and the tricophyton is seen in each of the varieties. One case of tinea corporis in a woman was presented recently in which the circinate patches almost entirely covered body and extremities, stopping short at margin of the clothing, yet presenting the classical lesion, and under the microscope the tricophyton.

The absence of a history of a contagion in this special tinea (the tricophyton) is in my observation of little value in diagnosis. The above case illustrates this fact. This patient, a woman of 22 years, had been infected for two months. She lived in a very thinly settled portion of the coast country several miles from the city. She could not remember to have seen any one affected similarly, and her husband, who had occupied the same bed, did not exhibit the slightest trace of the infection. Careful inquiry, though, developed the fact that a pet cat, which had died some weeks prior to the date when this patient first consulted me, had been affected by a skin disease, which the patient

described as resembling the eruption on her body. Hence I concluded that very probably the disease was contracted from the cat.

Sabonrood has described a tricophyton which he found on the neck of a chicken, and also in certain cases of tinea barbæ. Dr. Leslie Roberts claims that all the tinea tricophytina are originally saprophytes.

My case of tinea corporis was most benefitted by a 40 per cent solution of sodium hyposulphite, some of the more persistent patches being treated by a saturated solution of sulphide of potassium. The variety of tinea in this case was that in which the spores are deposited in chain-like rows within the hair. In my observation the contagion of tinea-tonsurans are very easy of transmission, and very difficult to eradicate.

Wickhorn, in the archives of syphilis and dermatology, reports an epidemic in asylum at Lambrechts, in which it was necessary to send the children away for a month, and thoroughly disinfect ward, bed and clothing before the disease could be arrested and stamped out. As a result of his observations in these cases, he concludes that the average time necessary to affect a cure in severe infections is eight months.

Drs. Casteel and Stout reported in Journal Cutaneous and Genito-Uninary diseases of 1894 a very interesting case of tinea favosa in a boy, in which head, body, and to a limited extent, extremities were affected. The disease existed a year on the head before it affected the body, and at the time it was described had gone untreated for two years. The patient recovered after a prolonged use of alkaline baths and sulphur ointment.

In our clinic impetigo contagiosum is seen occasionally, and is a very mild and tractable affection. Eczema is not of such frequent occurrence as probably elsewhere, judging from the statistics of the American Dermatological Association. Concerning the nature of eczema recent articles differ widely. Quite a large group of authorities, among whom are Unna, Van Harlingen and others, hold it is a parasitic catarrh of the skin, with peculiar features, not contagious in the ordinary sense, yet depend-

ing in certain cases on staphlococci and microccocci, which may be self-inoculated or transmitted. On the other hand, a classical treatise by Prof. Breda Achille, concludes among other things, that staphylococci, eczema marginatum, Paget's disease, tubucular diseases, the eczematous conditions of Brocq and Jaquet, and eczema saborrohicam of Unna should be classed to themselves, entirely apart from "eczema." That the relations of gout and rheumatism to the ætiology of eczema are of more importance than the theories regarding the parasitic origin. The hereditary predisposition, (the eczematous diathesis) a certain vulnerability of the skin, together with disturbances of metabolism and of excretion, and innervation of the skin, play an important part in the ætiology of this affection.

Innovations in treatment have followed developments in bacteriological fields, in that more and more attention is being given to the use of antiseptic and aseptic measures. Less stress is being laid on internal remedies other than are directed to the correction of any special dyscrasia and to the regulation of habits, exercise and diet.

The same general ideas prevail in the management of other diseases of the skin, especially in suppurating affections, as acne vulgaris. As antiseptic applications of sulphur, ichthyol, boric acid and to a limited extent pix liquidæ are given the preference. Of course, in adapting an application to a case of eczema the widest variation is necessary in accordance with the peculiarity of the special case; that is the character of the lesion, its situation, the acuteness, or chronicity of the disease, the presence and intensity of the itching, etc.

As an antipruritic application, and as a valuable remedy in dry eczema a tincture of coal tar has been successful. Such a tincture can be made by mixing equal parts of coal tar and alcohol, and adding a small quantity of ether to assist the solution.

Gallanol has been attracting much attention as a remedy in psoriasis as a substitute for chrysarobin. It can be applied in ointment (10 per cent) or in traumaticin, and has been very satisfactory where it was used. The value of arsenic in certain

cases of psoriasis should not be overlooked. Within the year I have seen a very extensive case of psoriasis guttata et gyrata cured by this agent.

Thyroid feeding in diseases of the skin has on the whole not produced the good results which it promised. Abraham and Jackson, writing separately, conclude in effect, that the indications for this special treatment are obscure, the results uncertain, and that this agent is really only of distinct service in cretinism and myxœdema.

Thiosianire and taurine have not given constant results, though they are still being used hypodermically in the treatment of lupus, chronic and intractable eczema, psoriasis and acne.

The principal progress of the year has been in the direction of the aseptic and antiseptic treatment of diseases of the skin, a development which has followed the light thrown on the pathology and etiology by the microscope. Fortunately I am able to indicate and illustrate this progress by the presentation of a paper upon a portion of the subject by an eminent dermatologist of Philadelphia.

It is with great pleasure that I notice the editorial connection of one of the leading Southern dermatologists with probably the leading Southern journal. This union should help to awaken among the profession an interest in this field, which will be of service both to dermatology and to the practitioner of medicine.

THE MANAGEMENT OF STAPHYLOGENOUS DISEASES OF THE SKIN.

ARTHUR VAN HARLINGEN, M. D.,

PHILADELPHIA.

The discovery of bacteria as a factor in many diseases of the skin has revolutionized the treatment of these affections, and has introduced an element of certainty into our practice which before was wanting.

The treatment of eczema in its pustula forms, of impetigo of ecthyma, furuncle, carbuncle and similar affections was, not many years ago, almost purely empirical. It seemed useless to theorize regarding the nature and cause of these affections, and the best plan appeared to be to follow the practice of successful predecessors in cutaneous medicine and to employ simply such remedies as had on the whole appeared to have done good in similar cases.

At first thought it might seem perhaps that this procedure could scarcely be improved upon, and yet if considered, it will be evident that little if any progress is possible under such circumstances.

Such in fact was the case. I think I may assert that, compared with the progress which has been made in the therapeutics of diseases of the skin in the last ten years, the previous half century had been one of stagnation.

The improved methods of diagnosis and the vastly increased interest in the study of diseases of the skin which was due to the influence of Hura's teachings, had indeed for some years been showing the happiest results in the general management of these affections, but as regards some of the commoner diseases our present knowledge compared to that of a short decade since is as light to darkness.

The discovery that pus producing organisms played a prominent part in the production and development of many diseases of the skin was followed by intelligent experiments in asepsis and antisepsis, in the removal of disease germs when found, and in the application of methods calculated to discourage their multiplication and to sterilize so far as possible the soil which might be invaded by them.

Take for an example of the change which has come over our methods of cutaneous therapeutics, the old and the new methods of treatment in the case of furuncle.

Everyone can remember when the first thing to be done for a commencing boil was to apply a poultice. A nice warm thick mass of flax-seed poultice was to be applied over the seat of the lesion and the continuance of heat and moisture ensured by a covering of oil silk or other impervious material.

Under this regimen the staphylococcus grew and flourished amazingly, and after some days of such treatment is it to be wondered that a fresh crop of the same lesions, perhaps of a smaller size, were to be found gathered like satillites around the original furuncle! The proverbs regarding the inevitableness of such a catastrophy and the cold comfort of the axioms "better out than in," "every boil is worth five dollars," etc., were not seldom the best excuse under which we could escape from the consciousness that our professional aid had not perhaps changed to any degree the course of the disease. The effects of tonics and regimen, and perhaps the exhaustion of the soil at length put an end to the development of an affection which it is perhaps not too much to say in the present state of our knowledge we had unconsciously done our best to aggravate and prolong.

At the present day we recognize, when brought into the presence of an attack of furuncle that we have to deal with the invasion of a parasite, and that the indications for treatment are in the first place to improve the patient's general health, secondly to exterminate the germs where they have developed, and

thirdly, to prevent their diffusion to new points upon the surface of the skin.

As regard the first indication it is unnecessary, and perhaps would be impertinent for me to make any suggestion. Every practical physician is fully acquainted with the general treatment to be followed when an outbreak of furuncle occurs as the evident result of a systemic condition.

I may say, however, that furuncle is not necessarily the result of any failure in the general health. I need only instance the case of these occurring after a course of Turkish baths, or in athletes under training. Given the introduction sufficiently deep into the cutaneous glands of the staphylococcus and some manifestation of its presence, whether in the form of furuncle or one of the other pus forming affections "staphylococcia," as they have recently been named is sure to follow.

As regards the second and third indications, these are met by modern methods in the following manner.

The surface of the skin in the neighborhood of the affected parts are thoroughly cleansed by means of an antiseptic soap, as one containing corrosive sublimate. The lesion or lesions are then opened, and if pus is present this is evacuated thoroughly. It is thought better to open the pustules even if not "ripe," because the disease process may thus be aborted by the introduction of parasiticides at the center of bacterial development.

The parts are washed with a solution of bichloride of mercury 1 to 1000 and pure ichthyol is introduced into the cavity of the boil. Then, if the employment of heat and moisture to relieve the tension of the parts seems desirable, cloths, wrung out of a hot saturated laqueous solution of boric acid or poultices sprinkled with powdered boric acid are applied.

If the furuncle has only begun to show itself, a small piece of salicylic acid rubber plaster cut to fit the part and kept constantly applied will not infrequently disperse the swelling and arrest entirely the development of the disease germs.

The above is an example of the modern treatment of this

class of diseases. I do no wish it to be taken as representing the only procedure in these cases, but simply to show the modern treatment in comparison with that formerly employed.

The same principle is to be followed with modifications to suit the individual case in all affections of the skin where the presence of the staphylococcus in an active state is manifested by the formation of pus.

This same staphylococcus and its ally, the streptococcus, which is the chief agent in producing erysipelas and erysipeloid inflammation, are to be met with even upon the healthy skin.

Lying dormant in the scales of the epidermis, under the finger nails and elsewhere, these germs constantly infest all human beings and wait but for a suitable opportunity to spring into life and noxious activity.

Knowing now the enemy and his lurking place, what can we do to prevent or limit his ravages upon the external organism? Very little, I am sorry to say, in the way of prevention. That cleanliness which is next to Godliness is everywhere to be inculcated.

Especially when excessively hot weather weakens the system and promotes excessive glandular secretion, with the resulting maceration of the epidemics, is frequent bathing to be recommended.

Many of the so-called "epidemics" of furuncular and pustular eruptions might be avoided by the judicious employment of soap and water.

Indiscriminate bathing and the excessive use of soap are, however, to be avoided. Nature has provided the skin with a protective oily coating proceeding both from the sebaceous and the sweat glands which, by its presence, prevents the implantation of germs in the deeper and more succulent layers of the skin where they may find pabulum for their active growth and propagation.

If this sebaceous coating is too frequently or too thoroughly removed, the result is as harmful as that which occurs when the oily, fatty secretions are allowed to decompose and become

rancid in situ. I have already given two instances of this error on virtue's side, in the case of athletes in training and devotees of the seductive turkish bath. In both cases a normal protective to the skin is removed more rapidly than it can be replaced.

Instead of starch, talc, and other indifferent powders usually employed to prevent chafeing after the bath or in hot weather, some antiseptic or parasiticide powder should be employed. Boric acid is one of the best, and if pustular eruptions threaten, a small quantity of aristol, europhen or some similar preparation, should be added. If these are found too drying they may be applied in combination with vaseline.

When called to a case of pustular disease, whether eczema, impetigo, ecthyma, ulcers, or what not, it should not be thought sufficient to order a wash powder or ointment with directions for its application, but the surrounding skin and all vulnerable parts of the surface should be placed in an aseptic condition, so far as possible.

Medicated soaps should be a constant adjuvant to the more active treatment. Such an one as the sublimate soap made by Eichof, or in some cases even the ordinary tar soap may be used to advantage both as preliminary and an accompaniment to the more active local medication.

All crusts, scabs and epithelial debris should be removed from the seat of disease by fomentations or wet packing with antiseptic precautions.

Then, when all debris and secondary products are removed, we find ourselves face to face with the active disease process and can attack it directly and effectually.

To remove purulent exudation and cleanse the surface of pustular and ulcerative lesions, whether of a simply inflammatory nature or syphilitic in character, there is nothing I think equal to the hydrogen dioxide, or "peroxide of hydrogen," as it is sometimes called. Attack each pustule or each suppurative lesion in turn, open the lesions if necessary to get to the root of

the evil, and then with a beautifully clean surface to act upon, we may apply further remedies to the best advantage.

The pustular lesions being thus cleansed such astringent and stimulating applications may be made, whether in the form of powders, ointments or lotions, as may seem most appropriate to the case in hand. As a general thing some parasiticide should be added to the application, as iodoform, aristol, europhen, ichityol, bichloride of mercury, carbolic acid, etc.

I am not giving, as you observe, specific instructions for the treatment of these diseases, but only the general principles which should govern their management. I may add that constant vigilance to prevent the fresh implantation of germs is necssary. Prevent the spread of the disease by antiseptic general cleanliness, abort, if possible, threatening pus formation, open, where possible, each visicle, bleb or pustule, lay the disease surface freely open to the action of remedies, and allow no accumulation of debris of any sort.

The staphyloccic growth being once thoroughly arrested, the treatment is to be promptly changed. At this period protective, astringent and keratoplastic remedies, such as promote the growth of epithelium, come into play, and here the recuperative powers of the tissues are to be assisted in every way. At this point soap and water are to be used sparingly, and all mechanical violence seduously avoided, the touch should be lighter, and time should be given for tissue repair without undue interference.

Such are the principles which should guide us in the treatment of that class of skin diseases where pus formation plays a prominent part, a very large classs, let me say, and one including fully one-half of all the skin affections which are apt to come under the care of the practitioner.

I am convinced that, if these principles guide us, we shall find a much more satisfactory result in our treatment than if we content ourselves by the mere prescription of specific formula adapted to the name of the affection rather than to a due consideration of its essential nature.

ERYTHEMA MULTIFORME—REPORT OF CASE FOLLOWING CIRCUMCISION.

R. W. KNOX, M. D.,

HOUSTON.

Erythema multiforme, or polymorphic erythema, as it is sometimes known, has been made the subject of this paper, not with the view of bringing any new facts to the notice of the Association, but simply to call attention to this most interesting and unique affection, with the hope that some service may be rendered the general practitioner in readily recognizing it.

This form of erythema is undoubtedly rare, and on this account the more easily overlooked, and sometimes mistaken for more serious trouble. In my own practice only two cases can now be recalled, and these have occurred since I have began to interest myself in the study of dermatology. The first of these was associated with an attack of acute gonorrhœa, and the last followed an operation for circumcision in a young boy. It appeared singular that these two cases should have had a somewhat similar origin, yet, by a reference to the literature of this subject such cases are not unusual.

Operations upon the urethral tract, such as the introduction of a steel sound, genito-urinary disorders of various kinds, operations upon the uterus, etc., have been known to cause an attack. While these facts have been noted in connection with the disease, other and widely varying causes have been given. Violent emotional paroxysms have been known to precede an outbreak. Others have noticed it in epidemic form, and it had been seen as a complication of icterus, cirrhosis of the liver, and catarrh of the stomach. It has been noticed as a forerunner of an attack of cholera.

The etiology is obscure. Lewyn concluded that the cause was a reflex action by irritation of the genito-urinary apparatus, but Van Harlingen, in his very excellent article on this subject in the *Reference Hand-Book of the Medical Sciences*, thinks this view too narrow to cover all cases. Luzzato has found isolated and grouped cocci in the blood of erythematous patients.

The disease seems to be closely identified with urticaria in that it is of nervous origin. The irritation, whether coming in the form of shock or violent emotional paroxyms through the central nervous system, or acting from the peripheral surfaces, the same effect is produced, viz: a dilation of the capillaries of the corium and an exudation therefrom. The irritation is transmitted in a reflex manner by a sensitive nerve through the sympathetic ganglia, in fact, both the cerebro-spinal and sympathetic systems taking part in the process. It is reasonable to believe the impression is conveyed through the sympathetic system, on account of the tardiness of the eruption in making its appearance after the original irritation has been produced. When the eruption appears upon the skin after an operation on the genitalia, or from other causes, the interval between the two may be from twenty-four to thirty-six hours.

The most common lesions observed are more or less flattened papules, varying in size, and usually found upon the extensor surfaces of the hands and feet. The peculiar brownish-red patches that make their appearances in some cases assume a variety of fantastic shapes. For example, a large circular patch may fade in the center and show only the appearance of a ring, while another patch may form in the center of this ring, and in turn fade in the center, producing a series of concentric rings, possessing variegated colors, as red, purple, yellow and blue, a condition known as erythema iris. Vesiculation sometimes occurs. The disease usually runs its course in eight or ten days, without great detriment to the system, although the constitutional symptoms might be severe and numerous relapses occur.

The treatment is empyrical, and called for only as the general symptoms of the patient would indicate.

The following case has several points of interest: B. C., a bright boy of five years, who presented a good family history, and had never had any serious illness, was brought to me for treatment. The trouble was a nervous one; appetite poor, color pale and occasionally a little fever. At night was restless and would cry out and groan in his sleep, and often remain awake for several hours. Occasionally there was some complaint of pains in the legs and lower part of the abdomen. During the day he would play as usual without complaint. On examining the penis I found a tight foreskin, closely adherent to the glans. The operation of circumcision was proposed and readily agreed to by the parents. Chloroform anæsthesia used, and the operation begun after the corneal reflex had disappeared. The mucus surfaces were rather tightly adherent, and their separation was attended with considerable reflex muscular action, notwithstanding a liberal quantity of chloroform had been administered; in fact, quite as much as was considered safe. The patient's first night after the operation was his best for more than a week. On the second day a faint pinkish rash made its appearance over the greater portion of the body, attended with itching, burning and some fever. At the same time fine papules was noticed covering the extensor surfaces of the arms and legs. This eruption was unlike the ordinary flattened papules seen in erythema at this location, but resembled more a cutis anserina or lichen pilaris. About three days after the operation spots of a brownish red color, slightly raised and varying in size from a split pea, to a silver dollar, made their appearance in the region of the buttock, thighs and small of back. The temperature varied at different times of the day, the highest point 104° F. Some irritation and pain was complained of; in fact, the patient was generally miserable. The youth of my subject was a drawback in the way of gaining information regarding subjective symptoms. The swelling of the penis increased considerably, and upon the mucus surface of the glans a grayish looking superficial ulceration formed, with considerable secretion. This secretion caused any dressing that could be placed over the

glans to adhere with tenacity. After the eruption had lasted several days a crop of large vesicles or bullæ made their appearance, seated upon the larger erythematous lesions, situated upon the buttocks and small of back. These resembled blisters and contained a quantity of clear serum. The eruption took no other shape than the one given, viz: starting with a general erythema, covering nearly the entire surface, which redness would disappear and return at irregular intervals. This redness was followed by fine papules covering the extensor surfaces, principally the feet and legs, hands and forearms. This was in turn followed by inflammatory spots of various sizes, the larger of these spots subsequently developing a number of large vesicles. The eruption upon the body and penis with its high temperature, complicated an otherwise simple operation, and was more annoying in a child than it would have been in an adult. The eruption lasted about ten days, leaving no pigmentations, and but slight desquamation. From this time the child made an uneventful recovery, and was entirely relieved of its former nervousness, and general health was much better than before the operation.

It may be well to state that my patient was the subject of occasional attacks of urticaria before the operation, but none has been noticed since, although but three months have elapsed since the latter was performed. This case would seem to add weight to the fact generally admitted that urticaria and erythema multiforme were closely related, both being of a reflex nature in patients of a neurotic temperament.

DISCUSSION.

DR. J. H. SEARS, Waco: I wish to make this suggestion in regard to the treatment of the case mentioned. It would have been better in my opinion to have let the prepuce remain intact. By anointing the parts with vaseline, dilating the prepuce, and freeing the adhesions, the irritation of an operation, and subsequent constitutional disturbance would have been avoided. I am in the habit of first injecting a little

cocaine solution under the prepuce, and then with a probe gently breaking up the adhesions.

DR. LEE: I want to say that I agree with Dr. Sears in so far as his suggestions apply to cases of adherent prepuce, in which the adhesions are not firm and the opening in prepuce large. But in Dr. Knox's paper the purpose was to direct attention to the skin affection and its diagnosis. The assumption that in that case the primary condition and its treatment occupied a causal relation through the reflex irritation and that these reflexes were probably emphasized by septic inflammation about the corona and the glans is no doubt proper. The reflex irritation from the operation under an anæsthetic should be much less and the opportunity to avoid sepsis much better than in the manner of treatment suggested by Dr. Sears. I am disposed to think that I would have followed Dr. Knox's plan.

In my observation erythema multiforme is commonly associated with sepsis. The only cases I have seen recently occured in connection with or followed septicæmia.

The last was in a case of puerperal fever, seen shortly before I left home, which came into my hands on the seventh day of her pueperium, temperature ranging from 105 to 107. This temperature subsided in three days under appropriate treatment. The patient was very well for about forty-eight hours. On my morning visit following the nurse met me at the door with the announcement that "the patient's face was as red as a beet." And so it was not only red but swollen by dull reddish macular eruption, which was marked on face, chest, back, arms and legs: not covering the entire surface but presenting intervals of healthy skin. On the extremeties where the eruption first appeared were oval shaped nodules as large as a quarter or half a dollar, projecting above the level of the skin, reddish in color and symmetrically distributed. Papules were present and also blebs or bullæ. The subjective symptoms were exceedingly mild. There was no angina, no disturbance of digestion, no red tongue. While on superficial examination the case might have been held to resemble scarlatina, to my mind the diagnosis was unquestionable.

The treatment was entirely symptomatic. Fever continued for five days, gradually subsiding. The epidermis exfoliated in sheets, almost a perfect caste of the finger of one hand coming away. In this respect the case strikingly resembled a case of same affection which I have seen reported that was attributed to cinchonism.

LIST OF MEMBERS

OF

The Texas State Medical Association,

OF

AUXILIARY ASSOCIATIONS IN AFFILIATION,

AND OF

OFFICERS SINCE ORGANIZED.

In Memoriam.

Dr. W. J. Burt, Austin, Texas, died July 10, 1886.
Dr. H. W. Moore, Fort Worth, Texas, died September 26, 1886.
Dr. G. K. McGregor, Waco, Texas, died May 12, 1884.
Dr. J. T. Meek, Ennis, Texas, died November 11, 1886.
Dr. James Haley, Moffatt, Texas, died February 20, 1887.
Dr. J. S. Willis, Waco, Texas, died July 6, 1887.
Dr. A. Welch, ———, died September 22, 1886.
Dr. J. T. Howe, Huntsville, Texas, died August 13, 1888.
Dr. Z. W. Baker, Temple, Texas, died December 13, 1888.
Dr. A. C. White, Cuero, Texas, died December—, 1888.
Dr. F. A. Tompkins, Sandy Point, Texas, died July 26, 1888.
Dr. J. M. Ross, Brenham, Texas, died February 10, 1889.
Dr. Y. D. Harrington, Terrell, Texas, died June 9, 1889.
Dr. H. P. Downman.
Dr. J. L. Felder, Jr., Pittsburg, Texas.
Dr. W. H. Hardison, Fort Worth, Texas.
Dr. W. D. Kelley, Galveston, Texas.
Dr. Ed. Randall, Galveston, Texas, died November 13, 1889.
Dr. A. R. Kilpatrick, Navasota, Texas, died September 19, 1887.
Dr. Ashbel Smith, Cedar Bayou, Texas, died January 21, 1886.
Dr. S. F. Starley, Tyler, Texas, died December 19, 1887.
Dr. J. M. Lewis, Mexia, Texas.
Dr. S. T. Lowry, San Antonio, Texas, died June 30, 1890.
Dr. W. H. Park, Tyler, Texas, died November 4, 1885.
Dr. J. B. Robertson, Goliad, Texas.
Dr. W. L. Rogers, Galveston, Texas, died April—, 1887.
Dr. R. B. White, Ennis, Texas.
Dr. J. H. Martin, Dallas, Texas, died July 18, 1887.
Dr. E. J. Carothers, San Antonio, Texas.
Dr. A. E. Carothers, San Antonio, Texas.
Dr. G. W. Tucker, Comanche, Texas.
Dr. S. A. Towsey, Galveston, Texas.
Dr. Etien Mellou, Brownsville, Texas.
Dr. W. E. Saunders, Sherman, Texas.
Dr. Hilary Ryan.
Dr. W. A. East, Hallettsville, Texas, died December 5, 1885.
Dr. L. J. Cabell, Charlotteville, Va. [Honorary.]

Dr. Willis Westmoreland, Atlanta, Ga. [Honorary.]
Dr. J. H. T. King, Laredo, Texas.
Dr. S. H. Smith, Dallas, Texas.
Dr. A. A. Terhune, Jefferson, Texas.
Dr. L. J. Graham, Henderson, Texas, died April 15, 1891.
Dr. F. T. Paine, Comanche, Texas, died April 16, 1891.
Dr. G. W. Kerr, Waelder, Texas, died April—, 1891.
Dr. T. S. Burke, Corpus Christi, Texas, died September 21, 1891.
Dr. W. T. Strain, Wills Point, Texas, died November 1, 1891.
Dr. W. W. Reeves, Austin, Texas, killed December 29, 1891.
Dr. T. M. Stone, Jasper, Texas, died January 18, 1892.
Dr. E. J. Ward, Waxahachie, Texas, died December 17, 1893.
Dr. E. G. Nicholson, Del Rio, Texas, died February 3, 1893.
Dr. M. S. Crow, Stephensville, Texas, died May 3, 1892.
Dr. C. C. Francis, Cleburne, Texas, died November 16, 1892.
Dr. A. W. Pope, Marshall, Texas, died November 3, 1892.
Dr. A. D. Burroughs, Houston, Texas.
Dr. J. E. Roach, Sipe Springs, Texas, died April 10, 1893.
Dr. C. F. Paine, Comanche, Texas, died September 13, 1893.
Dr. J. L. May, Stephensville, Texas.
Dr. M. H. Oliver, Ennis, Texas, died September 5, 1893.
Dr. John L. Wagley, Cleburne, Texas, died December 13, 1893.
Dr. H. W. Waters, Independence, Texas, June 4, 1894.
Dr. E. L. E. Castleton, Houston, Texas, died September 17, 1893.
Dr. Jas. Cowling, Houston, Texas, died June 23, 1894.
Dr. H. F. Whiterspoon, Corsicana, Texas, died Sept. 7, 1894.
Dr. Michael Perl, Houston, Texas, died January 2, 1895.
Dr. Jas. Kennedy, Galveston, Texas, died March 27, 1895.
Dr. George Cupples, San Antonio, Texas, died April 19, 1895.
Dr. C. B. Raines, Mineral Wells, Texas, [Honorary] died June 28, 1895.
Dr. W. P. Burts, Fort Worth, Texas, died September 5, 1895.
Dr. G. M. D. Patterson, Franklin, Texas, died July 8, 1895.
Dr. Josephus Cummings, Austin, Texas, died July 13, 1895.
Dr. A. D. Paulus, Flatonia, Texas, date of death not reported.
Dr. J. L. Carter, Dallas, Texas, date of death not reported.

The above list is all the secretary, unaided, has been able to prepare. Members in possession of facts regarding the death of any of the above, or of members not mentioned, date of death, nativity, when joined the association, etc., will confer a favor on the secretary by communicating with him, and will also render a service to the association. -[EDITOR.

NEW MEMBERS.

ELECTED AT FORT WORTH, APRIL 28–MAY 1ST, 1896.

NAME.	POSTOFFICE.	COUNTY.
Alexander, J. H.	Meridian	Bosque
Anderson, W. B.	Brownwood	Brown
Baird, W. T	Dallas	Dallas
Beaumont, G. B	Coleman	Coleman
Bittick, S. G	Ringold	Montague
Booth, T. S.	Ardmore	Ind. Ter
Black, R. C.	Gainesville	Cook
Blailock, E. B	Woodlawn	Harrison
Cozby, J. A.	Azle	Tarrant
Chambers, W. F.	Austin	Travis
Comfort, J. N.	Woodbury	Hill
Crofford, Thos. J., (Hon.)	Memphis, Tenn.	
Davenport, R. G	Colorado	Mitchell
Dodson, J. E	Vernon	Wilbarger
Dodson, T. J.	Bartlett	Williamson
Eargle, J. J	Proctor	Comanche
Froshang, S. J.	Norse	Bosque
Gilbert, H. C.	Smithfield	Tarrant
Gladney, S. N.	Terrell	Kaufman
Hill, B. W. D	Dawson	Navarro
Hurt, Jno. H.	Big Springs	Howard
Hulen, Vard H	Galveston	Galveston
Jenkins, J. H	Caldwell	Burleson
Kimbrough, W. G.	Krum	Denton
Kennedy, T. L.	Galveston	Galveston
LeGrand, G. F	Graham	Young
Lewis, T. Y	Dublin	Erath
Le Mond, R. F., (Hon.)	Denver, Colorado	
Maner, F. B.	Itasca	Hill
McCracken, J. H.	Mineral Wells	Palo Pinto
McMahan, A. E.	Marshall	Harrison
McKinney, E. J	DeKalb	Bowie
McFall, J. W.	Lipan	Hood
Myers, R. E	Kemp	Kaufman

NAME.	POSTOFFICE.	COUNTY.
Miller, R. F.	Sherman	Grayson
Miller, R. L	Decatur	Wise
Mullen, J. A	Houston	Harris
Menefee, W. E.	Cleburne	Johnson
Norvell, E. E	Bynum	Hill
Nichols, J. R	Greenville	Hunt
Prestridge, B. G	Alvarado	Johnson
Peeples, D. L	Navasota	Grimes
Reid, D. S.	Wortham	Limestone
Roark, R. H	Aurora	Wise
Self, T. N	Joshua	Johnson
Scarborough, A. O.	Snyder	Scurry
Sedbury, W. R.	Clifton	Bosque
Smart, J. H	Dallas	Dallas
Shropshire, D. N	Alvarado	Johnson.
Starley, W. F., Jr	Galveston	Galveston.
Smyth, T. F	Mexia	Limestone
Tabor, Geo. R	Bryan	Brazos
Turner, John S	Granbury	Hood
Terrell, L. L.	Dallas	Dallas
Yater, C. M	Grandview	Johnson
Yandell, W. M	El Paso	El Paso
Walker, C. C	Gainesville	Cook
Wier, J. P.	Covington	Hill
Williamson, E. M.	Georges Creek	Johnson
Woldert, E. A.	Tyler	Smith
Wood, W. A.	Hubbard City	Hill

HONORARY MEMBERS.

NAME.	POSTOFFICE.	STATE.
Bozeman, Nathan	New York	New York
Crofford, Thos. J.	Memphis	Tennessee
Douglass, Richard	Nashville	Tennessee
DuPre, D.	Dallas	Texas
Gray, Landon Carter	New York	New York
Heard, T. J.	Galveston	Texas
Keller, Jas. M.	Hot Springs	Arkansas
Le Mond, R. F.	Denver	Colorado
Litten, J. M.	Austin	Texas
Love, I. N.	St. Louis	Missouri
Lydston, Frank G.	Chicago	Illinois
McGuire, Hunter	Richmond	Virginia
McMurtry, Louis S.	Louisville	Kentucky
Meyer, J. M.	Danville	Kentucky
Milliken, Sam'l E.	New York	New York
Madden, T. More	55 Merrion Square Dublin	Ireland
Noyes, J. F.	535 Broad Street Providence	Rhode Island
Osborn, T. C.	Cleburne	Texas
Price, Joseph	Philadelphia	Pennsylvania
Reed, R. Harvey	Columbus	Ohio
Smith, Albert H.	Philadelphia	Pennsylvania
Souchon, Edmund	New Orleans	Louisiana
Stout, S. H.	Dallas	Texas
Thompson, W. G.	34 E. 31st St. New York	New York
Wyeth, John A.	New York	New York
Yandell, David, W.	Louisville	Kentucky
Young, S. O.	Galveston	Texas

ORDINARY MEMBERS.

NAME.	POSTOFFICE.	COUNTY.	ELECTED.
Akard, G. W.	Springtown	Parker	1890
Alexander, C. M.	Coleman	Coleman	1887
Alexander, J. H.	Meridian	Bosque	1896
Alexander, W. P.	Cleburne	Johnson	1890
Anderson, W. B.	Brownwood	Brown	1896
Archer, W. A.	Houston	Harris	1872
Ashton, L.	Dallas	Dallas	1892
Autrey, J. L.	Luna	Freestone	1893
Baird, W. T	Dallas	Dallas	1896
Baldwin, A. P.	Tyler	Smith	1891
Barham, J. H.	Nacogdoches	Nacogdoches	1893
Bass, T. B.	Terrell	Kaufman	1892
Beaumont, G. B	Coleman	Coleman	1896
Becton, E. P.	Austin	Travis	1876
Becton, Jos. D.	McKinney	Collin	1894
Bell, T. J.	Tyler	Smith	
Benbrook, J. T.	Rockwall	Rockwall	
Bennett, Edward	San Antonio	Bexar	
Bennett, T. J.	Austin	Travis	1884
Berg, L. M.	Laredo	Webb	1890
Bittick, S. G	Ringold	Montague	1896
Black, R. C.	Gainesville	Cook	1896
Blailock, E. B	Woodlawn	Harrison	1896
Blailock, W. R.	McGregor	McLennan	1889
Blackburn, J. H.	Mineral Wells	Palo Pinto	1893
Blake, D. B.	Cuero	DeWitt	
Blunt, W. F.	Galveston	Galveston	
Boatner, J. W.	Lewisville	Denton	1893
Bobo, C. S.	Boyd	Wise	1884
Bond, Geo. D	Hillsboro	Hill	
Booth, T. S.	Ardmore	Ind. Ter	1896
Boyd, F. D.	San Antonio	Bexar	1893
Boyer, S. S.	Fort Worth	Tarrant	1893
Bramlett, A. C.	San Antonio	Bexar	1892
Bowers, S.	Brenham	Washington	
Bibb, R. H. L.	Colonia Sta., City of Mexico, Mex.		

NAME.	POSTOFFICE.	COUNTY.	ELECTED.
Braunagle, Julius	San Antonio	Bexar	1889
Brittain, B. F.	Arlington	Tarrant	
Brown, A. P.	Fort Worth	Tarrant	1876
Brown, J. E.	McGregor	McLennan	
Burie, J.	Hillsboro	Hill	1889
Bundy, Z. T.	Milford	Ellis	1890
Burroughs, S. R.	Buffalo	Leon	1876
Burger, W. M.	Bluff Dale	Erath	
Callen, W. P.	Warren	Tyler	1892
Camp, E. N.	Lewisville	Denton	
Capps, E. D.	Fort Worth	Tarrant	1892
Carhart, J. W.	LaGrange	Fayette	1886
Carter, J. T.	Walhalla	Fayette	
Cerna, David	Galveston	Galveston	1893
Chambers, W. F.	Austin	Travis	1896
Chilton, R. H.	Dallas	Dallas	1881
Christian, G. W.	Houston	Harris	1886
Church, B. F.	Terrell	Kaufman	1889
Clark, I. E.	Shulenberg	Lavaca	1885
Clay, C. L.	Moody	McLennan	1886
Cline, I. M.	Galveston	Galveston	
Clopton, A. G.	Galveston	Galveston	1874
Coble, J. M.	Dallas	Dallas	
Cole, W. F.	Waco	McLennan	
Colby, B. G.	Claiborne		
Coleman, P. C.	Colorado City	Mitchell	1885
Collier, E. S.	Wills Point	Van Zandt	1892
Comfort, J. N.	Woodbury	Hill	1896
Conerly, T. W.	San Angelo	Tom Green	
Cooke, H. P.	Galveston	Galveston	1885
Cosby, J. A.	Azle	Tarrant	1896
Crump, J. G.	St. Jo	Montague	1885
Cunningham, Sam	Taylor	Williamson	1887
Cunningham, W. M.	Bastrop	Bastrop	1891
Daniel, F. E.	Austin	Travis	1882
Daniels, J. G.	Gilmer	Smith	1886
Darr, H. H.	Caldwell	Burleson	1877
Davenport, R. G	Colorado	Mitchell	1896
Davis, E. P.	Houston	Harris	
Davis, J. A.	Austin	Travis	1890
Dean, J. F.	Hornsby	Travis	1889
Denton, A. N.	Austin	Travis	

NAME.	POSTOFFICE.	COTNTY.	ELECTED.
Dodson, J. E	Vernon	Wilbarger	1896
Dodson, T. J.	Bartlett	Williamson	1896
Duncan, Thos. G.	Victoria	Victoria	1894
Duringer, W. A.	Fort Worth	Tarrant	1887
Eads, B. F.	Marshall	Harrison	
Eagon, S.	Dallas	Dallas	
Eargle, J. J	Proctor	Comanche	1896
Edmondson, M. M.	Dallas	Dallas	1894
Evans, W. T.	Jewett	Leon	
Fennell, J. W.	Seguin	Guadalupe	
Fennell, J. D.	Seguin	Guadalupe	1887
Field, J. T.	Fort Worth	Tarrant	1872
Florer, Thos. W.	Waxahachie	Ellis	1894
Fly, A. W.	Galveston	Galveston	1877
Ford, F. C.	Nacogdoches	Nacogdoches	
Foutz, J. J.	Gonzales	Gonzales	1891
Fowler, B. A.	Brownwood	Brown	1891
Frey, J. H.	Corsicana	Navarro	1890
Froshang, S. J.	Norse	Bosque	1896
Fry, H. C.	St. Jo	Montague	1894
Fry, J. M.	Wills Point	Van Zandt	
Fuller, F. A.	Jacksonville	Cherokee	
Gammon, Wm.	Galveston	Galveston	
Gardner, A. B.	Bellville	Austin	1880
Gilbert, H. C.	Smithfield	Tarrant	1896
Gilbert, R. S.	Oak Cliff	Dallas	1894
Gilcreest, J. E.	Gainesville	Cooke	1884
Gilsen, F. J.	Calvert	Robertson	1887
Gladney, S. N.	Terrell	Kaufman	1896
Grammar, R. B.	Fort Worth	Tarrant	1884
Hackler, G. M.	Ennis	Ellis	1894
Hadra, B. E.	San Antonio	Bexar	1873
Hamilton, J. W.	Lampasas	Lampasas	1894
Harris, D.	Whitney	Hill	1889
Harrington, J. T.	El Paso	El Paso	
Haynes, F. E.	Abilene	Taylor	1894
Head, G. C.	Grandview	Johnson	1894
Herff, Adolph	San Antonio	Bexar	
Herff, Ferdinand	San Antonio	Bexar	
Hicks, F. M.	San Antonio	Bexar	
Hill, B. W. D	Dawson	Navarro	1896
Hilgartner, H. L.	Austin	Travis	1892

NAME.	POSTOFFICE.	COUNTY.	ELECTED.
Hons, J. M.	San Marcos	Hays	1893
Hubbard, M.	Roseland	Collin	1893
Hudson, C. P.	Alvarado	Johnson	1886
Hudson, J. W.	Milano	Milam	1891
Hudson, S. E.	Austin	Travis	1893
Hughes, C. T.	Meridian	Bosque	1893
Hulen, Vard H	Galveston	Galveston	1896
Hunter, J. W	Waco	McLennan	
Hurt, Jno. H.	Big Springs	Howard	1896
Inge, J. M.	Denton	Denton	1885
Jackson, T. T.	Iredell	Bosque	1894
Jarrett, J. C.	Valley Mills	Bosque	1891
Jenkins, J. H	Caldwell	Burleson	1896
Jones, J. A.	Ferris	Ellis	1894
Jones, Jno. C.	Gonzales	Gonzales	1878
Jones, L. L.	Forney	Kauffman	1891
Jones, E. A.	Osage	Coryell	1893
Karnes, T. C.	Gonzales	Gonzales	1890
Kemp, Jos.	Thorp Springs	Bosque	1891
Kendall, O. J.	Wichita Falls	Wichita	1886
Kennedy, N. B.	Hillsboro	Hill	1890
Kennedy, T. L.	Galveston	Galveston	1896
Kimbrough, W. G.	Krum	Denton	1896
King, S. F.	Sherman	Grayson	
King, J. C. J.	Waco	McLennan	1878
Kingsley, B. F.	San Antonio	Bexar	1886
Kirkpatrick, D. F.	Waketon	Denton	
Kirkpatrick, S. B.	Commerce	Hunt	1884
Knox, M. D.	Hillsboro	Hill	
Knox, R. T.	Gonzales	Gonzales	
Knox, R. W.	Houston	Harris	1885
Lancaster, W. H.	Moulton	Lavaca	
Lancaster, J. R.	Grandbury	Hood	
Landegren, J.	Shafter	Presidio	1880
Lane, W. J.	Dallas	Dallas	1894
Larendon, G. W.	Houston	Harris	1891
Larendon, J.	Houston	Harris	1869
Law, J. D.	Salado	Bell	
Leake, H. K.	Dallas	Dallas	
Lee, Geo. H.	Galveston	Galveston	1888
Lee, W. P.	Cisco	Eastland	1894
Le Grand, C. W.	Hempstead	Waller	

NAME.	POSTOFFICE.	COUNTY.	ELECTED.
Le Grand, G. F	Graham	Young	1896
Letcher, J. S.	Dallas	Dallas	
Lewis, T. Y	Dublin	Erath	1896
Link, E. W.	Palestine	Anderson	1889
Litten, Frank	Austin	Travis	1889
Loggins, J. C.	Ennis	Ellis	1882
Lovett, J. A.	Abbott	Hill	1894
Lutrell, J. M.	Mineral Wells	Palo Pinto	1893
Maner, F. B.	Itasca	Hill	1896
Martin, F. R.	Kyle	Hays	1884
Matthews, C. O.	Terrell	Kaufman	1892
Maxwell, T. O.	Austin	Travis	
Mayes, C. M.	Archer	Archer	1890
McCaleb, J. H.	Webberville	Travis	
McCracken, J. H.	Mineral Wells	Palo Pinto	1896
McCustion, L. P.	Paris	Lamar	
McDaniel, A. S.	San Antonio	Bexar	
McDaniel, J. H.	Centerville	Leon	1890
McFall, J. W.	Lipan	Hood	1896
McGee, J. A.	Rice	Navarro	1882
McKnight, W. B.	Springtown	Parker	1889
McKinney, E. J	DeKalb	Bowie	1896
McLaughlin, J. W.	Austin	Travis	1875
McMahan, A. E.	Marshall	Harrison	1896
McReynolds, Jno. O.	Dallas	Dallas	
Menefee, A. J.	Rio Vista	Johnson	1893
Menefee, E. L.	Granbury	Hood	1886
Menefee, W. E.	Cleburne	Johnson	1896
Miller, T. A.	Corsicana	Navarro	1891
Miller, J. W.	Hillsboro	Hill	
Miller, R. A.	Dublin	Erath	
Miller, R. F.	Sherman	Grayson	1869
Miller, R. L	Decatur	Wise	1896
Montgomery, D. W.	Concord	Leon	1891
Monday, W. H.	Terrell	Kaufman	1892
Moody, R. E.	Sweetwater	Nolan	1890
Moore, W. H.	Weesatche	Goliad	
Moore, W. M.	Paris	Lamar	
Morris, J. E.	Madisonville	Madison	
Moss, R. E.	San Antonio	Bexar	1884
Mullen, J. A	Houston	Harris	1896
Myers, J.	Paris	Lamar	

NAME.	POSTOFFICE.	COUNTY.	ELECTED.
Myers, R. E	Kemp	Kaufman	1896
Naylor, S. D.	Stephenville	Erath	1894
Neathery, E. J.	Van Alstyne	Grayson	1894
Nettles, R. C.	Marlin	Falls	1877
Newland, W. B.	Gatesville	Coryell	
Nichols, J. R	Greenville	Hunt	1896
Norvell, E. E	Bynum	Hill	1896
Oates, T. F.	Mexia	Limestone	1890
O'Barr, J. T.	Ledbetter	Washington	1890
O'Brien, J. G.	Dublin	Erath	
O'Hara, Jas. H.	Grandview	Johnson	1887
Oliver, J. P.	Caldwell	Burleson	1874
Orr, C. L.	Kennedy	Karnes	1890
Osborn, J. D.	Cleburne	Johnson	1882
Paine, J. F. Y.	Galveston	Galveston	1877
Parker Daniel	Calvert	Robertson	1887
Peeples, D. L	Navasota	Grimes	1896
Perkins, A. N.	Sabine Pass	Jefferson	
Perkins, A. T.	Coryell City	Coryell	
Peyton, F. T.	Dallas	Dallas	
Pope, Irvin	Tyler	Smith	1888
Pope, John H.	Marshall	Harrison	
Powell, R. G.	Baird	Callahan	1894
Powell, W. P.	Willis	Montgomery	
Powell, J. H. E.	Smithville	Bastrop	1893
Poynor, R. S.	Bartlett	Williamson	1891
Preston, John	Austin	Travis	1887
Prestridge, B. G	Alvarado	Johnson	1896
Raines, C. B.	Mineral Wells	Palo Pinto	
Ray, D. M.	Whitewright	Grayson	1882
Red, S. C.	Houston	Harris	1893
Reid, D. S.	Wortham	Limestone	1896
Reuss, J. H.	Cuero	DeWitt	
Richardson, D. P.	Henderson	Rusk	1892
Richmond, W. T.	Manor	Travis	1891
Roark, R. H	Aurora	Wise	1896
Rogers, W. L.	Temple	Bell	
Rosser, C. M.	Terrell	Kaufman	1886
Rutherford, R.	Houston	Harris	
Rice, S. P.	Marlin	Falls	
Saunders, B.	Fort Worth	Tarrant	
Saunders, J.	Orange	Orange	

NAME.	POSTOFFICE.	COUNTY.	ELECTED.
Scarborough, A. O.	Snyder	Scurry	1896
Schenk, A. H.	Kenney	Austin	1893
Scott, A. C.	Temple	Bell	
Sears, J. H.	Waco	McLennan	1869
Sedbury, W. R.	Clifton	Bosque	1896
Sessions, E. L.	Hillsboro	Hill	
Shearer, T. W.	Wallisville	Chambers	1893
Self, T. N	Joshua	Johnson	1896
Sholars, S. W.	Orange	Orange	1889
Shropshire, D. N	Alvarado	Johnson	1896
Shropshire, L. L.	San Antonio	Bexar	1885
Shultz, C. A.	Alvarado	Johnson	1894
Sims, R. S.	Iowa Park	Wichita	1891
Smart, J. H	Dallas	Dallas	1896
Smith, A. J.	Galveston	Galveston	1893
Smith, B. D.	Alden, Kansas.		1893
Smith, C. A.	Tyler	Smith	1889
Smith, M. M.	Austin	Travis	
Smith, Q. C.	Austin	Travis	1884
Smyth, T. F	Mexia	Limestone	1896
Sproule, R. M.	Liberty	Liberty	
Stallcup, J. H.	Jefferson	Marion	
Starley, W. F.	Tyler	Smith	
Starley, W. F., Jr	Galveston	Galveston	1896
Strayhorn, J. M.	Bartlett	Williamson	1893
Suttle, I. N.	Corsicana	Navarro	1891
Swearingen, R. M.	Austin	Travis	1876
Swindall, F. W.	Tyler	Smith	1892
Tabor, Geo. R	Bryan	Brazos	1896
Tate, H. L.	Lindale	Smith	1892
Taylor, T. W.	Sherman	Grayson	1894
Terrell, L. L.	Dallas	Dallas	1896
Terrell, W. N.	Farmer	Young	1886
Thomas, G. T.	Rogers	Bell	1891
Thomas, J. E.	Mexia	Limestone	1886
Thomason, J. W.	Huntsville	Walker	1887
Thompson, F. D.	Fort Worth	Tarrant	
Thompson, Jas. E.	Galveston	Galveston	1893
Thorpe, H. H.	Liberty Hill	Williamson	1884
Todd, Frank C.	Minneapolis, Minn.		1894
Townes, J. M.	Joshua	Johnson	1890
Trueheart, C. W.	Galveston	Galveston	

NAME.	POSTOFFICE.	COUNTY.	ELECTED.
Tucker, J. P.	Overton	Smith	1888
Turner, John S	Granbury	Hood	1896
Van Gasken, J.	Luling	Caldwell	1889
Vaughan, B. H.	Hillsboro	Hill	1890
Walker, R. R.	Paris	Lamar	
Walker, W. W.	Schulenberg	Fayette	1878
Wagley, T. J.	Cleburne	Johnson	
Walker, A. C.	Fort Worth	Tarrant	
Walker, C. C	Gainesville	Cook	1896
Wallace, D. R.	Waco	McLennan	1869
Wandless, H. W.	Dallas	Dallas	1894
Warfield, C.	Galveston	Galveston	1893
Watkins, W. A.	Kemp	Kaufman	1891
Watkins, W. B.	Stone Point	Van Zandt	1886
Watkins, W. B. W.	Eureka	Navarro	1890
Weller, C. O.	Austin	Travis	1887
West, H. A.	Galveston	Galveston	1887
White, F. S.	Terrell	Kaufman	1886
White, W. P.	Henderson	Rusk	1892
Wickline, R. M.	Johnson City	Blanco	1893
Wier, J. P.	Covington	Hill	1896
Wier, R. R.	Itasca	Hill	1886
Williams, J. O.	Houston	Harris	1893
Williams, O. L.	Dallas	Dallas	
Williamson, E. M.	Georges Creek	Johnson	1896
Williamson, J. J.	Cleburne	Johnson	
Williamson, R. A.	Hillsboro	Hill	1887
Wilson, J. T.	Sherman	Grayson	
Woldert, E. A.	Tyler	Smith	1896
Wolff, A. S.	Brownsville	Cameron	1888
Wood, W. A.	Hubbard City	Hill	1896
Wooten, T. D.	Austin	Travis	
Wooten, J. S.	Austin	Travis	
Worsham, B. M.	Austin	Travis	1890
Yandell, W. M	El Paso	El Paso	1896
Yater, C. M	Grandview	Johnson	1896
Yater, W. M.	Cleburne	Johnson	1887
York, W. L.	Decatur	Wise	1882
Young, F. A.	Navasota	Grimes	1894

AUXILIARY ASSOCIATIONS IN AFFILIATION.

The following Societies have been reported as in affiliation with the State Association:

Western Texas Medical Association. B. E. Hadra, M. D., President, San Antonio; Jno. W. Kenney, M. D., Secretary, San Antonio.

Southeast Texas Medical Society. Dr. T. B. Sellman, President, Village; Dr. B. F. Calhoun, Beaumont, Secretary, Beaumont. Meetings every three months at Beaumont.

Central Texas Medical Association. J. D. Law, M. D., President, Salado; Maroni L. Graves, M. D., Secretary, Waco. Membership, 1896—98.

Waco Medical Society. Names of officers not reported. Number of members 1896—30.

Johnson County Medical Society. W. E. Menefee, Secretary, Cleburne. President not reported. Number of members 1896—37.

Austin District Medical Society, Austin, Texas. A. N. Denton, M. D., President; S. E. Hudson, M. D., Secretary.

Travis County Medical Society, Austin, Texas. Matthew M. Smith, M. D., President; Q. Cincinnatus Smith, M. D., Secretary.

Austin County Medical Society. —— Thompson, M. D., President, Nelsonville: A. H. Schenk, M. D., Secretary, Kenney, Texas.

Williamson-Bell-Milam County Medical Society. Chas. C. Gidney, M. D., President, Granger, Texas; J. C. Anderson, M. D., Secretary, Granger, Texas.

East Texas Medical Society. T. J. Bell, President, Tyler; E. A. Woldert, Secretary, Tyler. Number members 1896—57.

Ellis County Medical Association. J. C. Loggins, M. D., President, Ennis; Chas. W. Simpson, Secretary, Waxahachie. Number of members 1896—34.

East Line Medical Association. Names of officers not reported. Number of members 1896—44.

Hill County Medical Association. Officers and members not reported.

North Texas Medical Association.

Terrell Medical Association.

Brazos Valley Medical Association. Officers and members not reported.

The above list is by no means complete, but includes the names of all societies the committees have so far reported. It is hoped by the next meeting that the list may show a much larger number.

OFFICERS OF THE TEXAS STATE MEDICAL
HOUSTON, TEXAS,

Session.	Date of Meeting.	Place of Meeting.	Presidents.	First Vice Presidents.
1	June, 1869...	Houston	T. J. Heard.....	R. H. Jones.....
2	June, 1870...	Houston	R. H. Jones.....	R. W. Lindsay.....
3	June, 1871...	Houston	D. R. Wallace	L. Hudspeth.....
4	June, 1872...	Houston	R. T. Flewellen...	J. A. McQueen.....
5	April, 1873..	Waco.....	D. F. Stuart.....	H. W. Brown .....
6	April, 1874..	Dallas	A. G. Clopton.....	T. D. Wooten.....
7	April, 1875..	Austin.....	H. W. Brown.....	L. R. Mayfield.....
8	April, 1876..	Marshall.....	R. H. Harrison ...	John H. Pope.....
9	April, 1877..	Galveston.....	W. D. Kelley	Geo. Cupples.....
10	April, 1878..	San Antonio...	Geo. Cupples..	R. W. White.....
11	April, 1879..	Sherman.....	John H. Pope.....	S. F. Matchett.....
12	April, 1880..	Brenham	A. R. Kilpatrick.	R. M. Swearingen ...
13	April, 1881.	Waco	Ashbel Smith.....	S. F. Starley.....
14	April, 1882..	Fort Worth....	S. F. Starley.....	W. P. Burts .....
15	April, 1883..	Tyler	A. P. Brown.....	T. H. Nott.....
16	April, 1884..	Belton.....	H. C. Ghent.....	E. P. Becton.....
17	April, 1885..	Houston	E. P. Becton.....	R. Rutherford.....
18	April, 1886..	Dallas	T. H. Nott	R. H. Chilton.....
19	April, 1887..	Austin.....	S. R. Burroughs..	R. T. Knox.....
20	April, 1888..	Galveston.....	J. F. Y. Paine	H. K. Leake.....
21	April, 1889..	San Antonio...	R. M. Swearingen	A. Sims.....
22	April, 1890..	Fort Worth....	W. P. Burts	J. C. J. King.....
23	April, 1891..	Waco	W. H. Wilkes.....	P. C. Coleman .....
24	April, 1892..	Tyler.....	J. D. Osborn.....	T. J. Bell.....
25	May, 1893...	Galveston.	J. H. Sears.....	C. M. Rosser.....
26	April, 1894..	Austin.....	J. W.McLaughlin	W. L. York.....
27	April, 1895..	Dallas	P. C. Coleman	J. T. Wagley.....
28	April, 1896..	Fort Worth....	J. C. Loggins	A. N. Denton.....

*Died July, 1886, and F. E. Daniel was appointed till next meeting.

ASSOCIATION SINCE ITS ORGANIZATION AT JUNE, 16, 1869.

Second Vice Presidents.	Third Vice Presidents.	Secretaries.	Treasurers.
D. W. Wallace		A. Connell	F. Hassenberg
W. J. Locke		A. Connell	W. P. Riddell
J. T. Norris		A. Connell	W. P. Riddell
D. F. Stuart		A. Connell	J. Larendon
J. M. Morrison		S. O. Young	J. Larendon
M. H. Oliver		W. A. East	J. Larendon
M. A. Taylor	R. H. Harrison	W. A. East	J. Larendon
T. W. Wiley	W. H. Park	W. A. East	J. Larendon
R. M. Swearingen	J. H. Sears	W. A. East,	J. Larendon
W. E. Saunders	J. T. Field	W. A. East	J. Larendon
S. F. Starley	S. Eagan	W. A. East	J. Larendon
E. J. Beall	O. H. Seeds	R. H. L. Bibb.	J. Larendon
J. W. McLaughlin	J. A. Summers	R. H. L. Bibb.	J. Larendon
W. A. Adams	Joe S. Willis	W. J. Burt	J. Larendon
J. D. Osborn	Frank Allen	W. J. Burt	J. Larendon
H. H. Darr	M. Matkin	W. J. Burt	J. Larendon
John C. Jones	S. R. Burroughs	W. J. Burt	J. Larendon
J. C. Loggins	H. L. Parsons	W. J. Burt*	J. Larendon
A. M. Douglass	A. A. Terhune	F. E. Daniel	J. Larendon
A. V. Doak	O. Eastland	F. E. Daniel	J. Larendon
B. F. Kingsley	I. E. Clarke	F. E. Daniel	J. Larendon
M. D. Knox	W. W. Reeves	F. E. Daniel	J. Larendon
W. L. Rogers	B. H. Vaughan	H. A. West	J. Larendon
F. W. Pitts, Jr	T. J. Bennett	H. A. West	J. Larendon
E. M. Rabb	W. A. Watkins	H. A. West	J. Larendon
W. R. Blailock	W. H. Lancaster.	H. A. West	J. Larendon
N. B. Kennedy	T. B. Bass	H. A. West	J. Larendon
J. S. Letcher	David Cerna	H. A. West	J. Larendon

PROF. [illegible] SAUNDERS, M. D.,
[illegible] TEXAS.
[illegible], 1897.

TRANSACTIONS

OF THE

Texas State Medical Association,

TWENTY-NINTH ANNUAL SESSION,

HELD AT

PARIS, TEXAS,

APRIL 27TH, 28TH, 29TH AND 30TH, 1897.

AUSTIN, TEXAS:
EUGENE VON BOECKMANN PUBLISHING COMPANY.
1897.

NOTE.

The Association does not hold itself responsible for the views enunciated in the papers and discussions published in this volume.

Minutes stenographically reported by F. C. Pierce, Dallas, and in consequence of his failure to furnish transcript, discussions have been omitted.

H. A. West, M. D., *Secretary*,
Galveston, Texas.

2020 Market Street.

CONTENTS.

PAGE.

Officers for 1897-98 ..... 7- 9
Constitution and By-Laws 1- 6
Minutes of the Twenty-Ninth Annual Meeting 11-55

Section on General Medicine—

Some Unusual Symptoms of Cocaine Poisoning. By T. W. Conerly, M. D., San Angelo 59-60
Hopscotch. By J. H. Sears, M. D., Waco 61-76
Some Facts and Theories About the Present Status of Serum Therapy. By S. C. Red, M. D., Houston 77-80

Section on Surgery—

Supra-Pubic Cystotomy as a Preliminary Step in the Treatment of Certain Cases of Deep Urethral Stricture. By Bacon Saunders, M. D., Fort Worth 81-85
Resection of the Lower Jaw, with Report of Two Cases. By A. C. Scott, M. D., Temple 86-92
Traumatic Injuries of Nerves. By M. D. Knox, M. D., Hillsboro 93-97
Entro-Lithiasis, with Report of Cases. By E. J. Neathery, M. D., Van Alstyne 98-102
Gunshot Wounds—Two Unique Cases. By J. T. Benbrook, M. D., Rockwall 103-105
Carbuncle and Report of Case. By A. O. Scarborough, M. D., Snyder 106-109
Operative Procedure for Bowel Obstruction, with Case and Recovery. By A. N. Denton, M. D., Austin 110-115
Thrombosis of the Lateral Sinus. By B. F. Church, M. D., Dallas 116-119

PAGE.

Section on Gynecology—

Prophylactic Gynecology. By R. R. Walker, M. D., Paris... 121-126
Etiology of Pelvic Inflammation. By H. K. Leake, M. D., Dallas... 127-136
Methods of Diagnosis of Inflammatory Diseases of the Pelvic Organs. By J. M. Coble, M. D., Dallas... 137-141
Remarks Upon Cancer of the Uterus Based Upon a Personal Experience of Ninety-Seven Hysterectomies with Only Four Known and Eight Suspected Recurrences. By Emory Lanphear, M. D., St. Louis, Mo... 142-152
Treatment of Abortion. By W. H. Monday, M. D., Terrell. 153-155
Management of Gynecological Cases by the Country Practitioner. By J. M. Inge, M. D., Denton... 156-160
A Preference for the Supra-Pubic Over the Vaginal Route. By Joseph Meyer, M. D., Paris... 161-164
Hysterectomy—Report of Cases. By B. F. Kingsley, M. D., San Antonio... 165-170

Section on Ophthalmology and Otology—

Report of Chairman, Vard H. Hulen, M. D., Galveston... 171-176
Optic Neuritis. By R. H. Chilton, M. D., Dallas... 177-181
Antiseptic and Prophylactic Technique of Cataract Operation. By J. Aloysius Mullen, M. D., Houston... 182-187
The Oculist and the Code of Ethics. By R. F. Miller, M. D., Sherman... 188-190
The Toilet of the Injured Eye. By S. J. Terrell, M. D., Dallas... 191-195

In Memoriam... 199-200
New Members... 201
Honorary Members... 203
Ordinary Members... 205-210
Auxiliary Associations in Affiliation... 211
List of Officers Since Organization... 212-213

OFFICERS FOR 1897-98.

PRESIDENT.

BACON SAUNDERS ..... Fort Worth

FIRST VICE-PRESIDENT.

S. C. RED ..... Houston

SECOND VICE-PRESIDENT.

A. C. SCOTT ..... Temple

THIRD VICE-PRESIDENT.

C. M. ALEXANDER ..... Coleman

SECRETARY.

H. A. WEST ..... Galveston

TREASURER.

J. LARENDON ..... Houston

JUDICIAL COUNCIL.

J. W. HAMILTON, Lampasas ..... One year
F. R. MARTIN, Kyle ..... One year
W. H. MONDAY, Terrell ..... One year
F. S. WHITE, Terrell ..... One year
J. E. GILCREEST, Gainesville ..... Two years
F. A. FULLER, Jacksonville ..... Two years
J. D. OSBORN, Cleburne ..... Two years
A. B. GARDNER, Bellville ..... Two years

R. R. WALKER, Paris ..... Three years
S. F. KING, Sherman ..... Three years
TAYLOR HUDSON, Belton ..... Three years
C. S. BOBO, Boyd ..... Three years

ORATOR.

I. N. SUTTLE ..... Corsicana

SECTION ON GENERAL MEDICINE.

A. B. Gardner, Chairman ..... Bellville
J. S. Wooten, Secretary ..... Austin

SECTION ON OBSTETRICS AND DISEASES OF CHILDREN.

T. L. Kennedy, Secretary ..... Galveston

The nominee for Chairman of this Section is not a member of the Association.

SECTION ON SURGERY.

B. E. Hadra, Chairman ..... San Antonio
J. R. Stuart, Secretary ..... Houston

SECTION ON MEDICAL JURISPRUDENCE.

J. C. Loggins, Chairman ..... Ennis
R. R. Walker, Secretary ..... Paris

SECTION ON STATE MEDICINE AND PUBLIC HYGIENE.

F. S. White, Chairman ..... Terrell
S. E. Hudson, Secretary ..... Austin

SECTION ON GYNECOLOGY.

H. K. Leake, Chairman ..... Dallas
S. F. King, Secretary ..... Sherman

SECTION ON OPHTHALMOLOGY, ETC.

R. F. Miller, Chairman.....Sherman
S. J. Terrell, Secretary.....Dallas

SECTION ON DERMATOLOGY, ETC.

Geo. H. Lee, Chairman.....Galveston
W. A. Wood, Secretary.....Hubbard City

SECTION ON MICROSCOPY AND PATHOLOGY.

Wm. Gammon, Chairman.....Galveston
A. C. Bramlett, Secretary.....Decatur

TIME AND PLACE OF MEETING.

Houston.....Fourth Tuesday in April, 1898

CONSTITUTION AND BY-LAWS

OF

THE TEXAS STATE MEDICAL ASSOCIATION,

AS AMENDED AND ADOPTED AT THE 28TH ANNUAL MEETING, FORT WORTH, 1896.

CONSTITUTION.

ARTICLE I.

The name and style of this association shall be the "TEXAS STATE MEDICAL ASSOCIATION."

ARTICLE II.

The object of this association shall be to organize the regular medical profession of the state in the most efficient manner possible; to encourage a high standard of professional qualifications and ethics; to promote professional brotherhood; to labor for the advancement of state medicine, *i. e.*, of public hygiene; of medical education; of medical jurisprudence and public institutions for the sick and infirm.

ARTICLE III.

Every regularly educated physician within the limits of this state, who is a graduate of a regular medical college in good standing, and who adopts and conforms to the Code of Ethics of the American Medical Association, shall be eligible to membership in this association, except those of the negro race; provided that no person shall be eligible to membership who has not complied with the laws of Texas governing the practice of medicine now in force or that shall be hereafter enacted.

ARTICLE IV.

SECTION 1. The officers of this association shall be one president, three vice presidents, one secretary, one treasurer, nine chairmen and secretaries of sections, and twelve members of the judicial council.

SEC. 2. The president and vice presidents shall be elected for one year: the secretary and treasurer shall be elected each for five years;

and every officer shall remain in office until his successor is duly elected and installed.

ARTICLE V.

SECTION 1. It shall be the duty of the president to preside at all meetings of the association, when present; to give the casting vote; to see that all the rules of order and decorum are enforced in all deliberations of the body; to sign the approved proceedings of each meeting, and to approve such orders as may be drawn upon the treasurer for expenditures ordered by the association.

SEC. 2. It shall be the duty of the first vice president to preside in the absence of the president; and in the absence of the president and first vice president the second vice president shall preside; and in the absence of the president, first and second vice presidents the third vice president shall preside.

SEC. 3. In the absence of the president and all the vice presidents the association shall, by ballot, elect one of its members to preside *pro tem.*

SEC. 4. It shall be the duty of the secretary to keep a true and correct record of the proceedings of each meeting; to preserve all books, papers and things belonging to the archives of the association; attest all orders drawn upon the treasurer for moneys appropriated by the association; keep a register of the members, the dates of their admission and places of residence. He shall attend all committees that may be appointed by the association with such documents as may be necessary for reference; report such unfinished business of the previous meetings as may appear upon his books, requiring action, and shall attend to such other business as the association may direct. He shall also supervise and conduct all the correspondence of the association.

SEC. 5. It shall be the duty of the treasurer to collect all moneys due the association and receipt for same; and keep the accounts of the association with its members, and pay all orders drawn on him by the president and attested by the secretary and by the chairman of the committee of publication, and make an annual report of the finances of the association, and furnish the secretary with a list of delinquent members; and, if required, give bond for the faithful performance of the duties of his office.

ARTICLE VI.

Vacancies occurring in the office of the association shall be filled by appointment by the president, and he shall have the appointment of all the committees not otherwise provided for.

ARTICLE VII.

SECTION 1. County and district societies in affiliation with this association shall be entitled to representation at each meeting of the association upon this basis, to-wit, two delegates for every ten members, and one for each fraction of ten over five.

SEC. 2. Before admission to a seat in this association each delegate shall produce a certificate of delegation duly signed by the secretary of his society and pay to the treasurer the annual dues of $5.00.

SEC. 3. Delegates shall have the rights and privileges of members for that meeting of the association to which they are sent.

SEC. 4. Delegates to this association from any other state or national association, who shall present certificates of delegation duly signed, shall be entitled to seats and to participate in the scientific business of the association, but shall not be entitled to vote or be required to pay dues.

SEC. 5. This constitution shall immediately take effect from its adoption.

BY-LAWS.

ARTICLE I.

The Texas State Medical Association shall meet annually at such time and place as may be determined by the committee on nominations.

ARTICLE II.

Fifteen members or any number over shall constitute a quorum for business.

ARTICLE III.

The president shall call the meeting to order, cause the secretary to read the proceedings of the previous meeting, which, after approval, shall be adopted.

ARTICLE IV.

In case there be no quorum, the meeting shall adjourn from day to day until such quorum be had.

ARTICLE V.

The annual dues of each member shall be $5.00 United States currency. Initiation fee, $2.50.

ARTICLE VI.

The usual parliamentary rules governing deliberative bodies shall govern the business workings of this association.

ARTICLE VII.

All questions of business before this association shall be determined by a majority of votes present.

ARTICLE VIII.

It shall be the duty of the president to deliver, at each annual meeting of the association, an address.

ARTICLE IX.

One member from each congressional district represented shall constitute a committee on nominations for offices and place of meeting: Said committee shall report action at the beginning of the session on the morning of adjournment. Five members shall constitute a quorum for the transaction of business. Their duties shall be to nominate a president, three vice-presidents, secretary, treasurer, members of the judicial council, delegates to the American Medical Association, and places of meeting.

ARTICLE X.

The secretary of the association shall receive, as a compliment, at each annual session, a draft from the president upon the treasurer for the sum of $200.00 for valuable services rendered the association, said order to be paid by the treasurer; and he shall also be allowed to draw upon the treasurer, as usual, for expenses incident to the office. The treasurer shall receive for his services $150.00.

[NOTE.—The following resolution was adopted at the Austin meeting, April 28, 1887: *Resolved*, That in future no advertisements be inserted in the volumes of transactions of the association, and that $300.00 each year be set aside from the treasury as compensation to the publishing committee for their time and labor in editing and publishing the transactions.]

ARTICLE XI.

It shall be the duty of the president, three months prior to each annual meeting of the association, to notify by circular, the profession of the state and county organizations throughout the state, and urge attendance.

ARTICLE XII.

No personal grievances shall be allowed to come before the general body for discussion. All questions of a personal character, including complaints and protests, and all questions on credentials, shall be submitted in writing, read by the secretary, and referred by the president at once to the judicial council, without discussion.

ARTICLE XIII—JUDICIAL COUNCIL.

SECTION 1. A council consisting of twelve members shall be appointed by the nominating committee, whose duty it shall be to take cognizance of and decide all questions of an ethical judicial character that may arise in connection with the association.

SEC. 2. Of the twelve members of the council first appointed the four first named on the list shall hold office for one year, the second four named shall hold office for two years, and the third four named shall hold office for three years; so that four new members shall be appointed each year, who shall hold office for three years. The said council shall organize by choosing a president and a secretary, and shall keep a permanent record of its proceedings.

SEC. 3. It shall be the duty of the judicial council to discipline members for infraction of the Code of Ethics, or for violation of any special order or resolution of this association, its Constitution or By-laws. Such discipline may be either (*a*) reprimand, (*b*) suspension for any definite period, (*c*) expulsion from the association.

SEC. 4. Charges against a member shall be presented in writing over the signature of the accuser, with specifications as to time and place of the offense and names and residence of his witnesses, to the chairman of the judicial council, who shall submit the same to the council at its next meeting.

SEC. 5. The judicial council shall consider the charges and specifications, also the reliability of the accuser and the witnesses, and shall by vote decide either to "entertain" or "not entertain" said charges. In the latter case the charges shall be returned to their author with the action of the council endorsed thereon. If the council decides to entertain the charges, it shall notify the accused, furnish him with a copy of the charges, specifications and names of witnesses, also the time and place where the case shall be heard. The accuser shall also be notified of the same and instructed to have his witnesses present. After a full hearing the council shall vote upon the guilt of the accused, and if guilty, assess his punishment. As soon after the trial as possible, it shall be the duty of the council to report its action to the association.

SEC. 6. The association shall thereupon, without discussion, vote upon the report of the council by ballot, a majority deciding its adoption or rejection. The action of the association shall be final, the association claiming jurisdiction as to who shall constitute its members and what punishment shall be inflicted upon those who violate its rules and regulations.

ARTICLE XIV.—SECTIONS.

The general meeting of the association shall occupy not exceeding two and a half hours of the first morning session, and not to exceed one hour of each other morning session, and the remainder of the morning sessions, the afternoon and first two evening sessions shall be devoted to the hearing of reports and papers and their consideration in the following sections:

1. Practice of Medicine, Materia Medica and Physiology.
2. Obstetrics and Diseases of Children.
3. Surgery and Anatomy.
4. Medical Jurisprudence, Chemistry and Psychology.
5. State Medicine and Public Hygiene.
6. Gynecology.
7. Ophthalmology and Otology.
8. Dermatology and Medical Botany.
9. Microscopy and Pathology.

ARTICLE XV.

The reading of all papers before the sections of this association shall occupy not exceeding twenty minutes, except by permission. All discussion shall be limited to five minutes, unless by unanimous consent of the sections, except the author of the paper, who shall have ten minutes in which to close, and no member shall speak to the same subject more than once, without permission.

ARTICLE XVI.

The president and vice-presidents of the association shall constitute a committee, whose duty it shall be at each meeting of the association, to select a chairman and secretary for each section, to serve during the next succeeding year. The committee shall also select the name of some subject for each section, a member to present the subject, and also one to open the discussion of same. These officers shall hold their offices until the close of the proper business of the annual meeting next succeeding their election, and until their successors are appointed. This committee shall present its report to the association on the morning of adjournment after the report of the nominating committee. Vacancies in this committee shall be filled by appointment of the president.

MINUTES

OF THE

TWENTY-NINTH ANNUAL MEETING

OF

The Texas State Medical Association,

HELD AT

PARIS, TEXAS,

April 27th, 28th, 29th, and 30th, 1897.

TEXAS STATE MEDICAL ASSOCIATION.

TWENTY-NINTH ANNUAL MEETING

First Day.

City Hall, Paris, Texas, April 27, 1897.

On account of the late arrival of trains there was no morning session.

First Day.—*Afternoon Session.*

The Association was called to order at 2 o'clock by the President, Dr. J. C. Loggins.

Dr. R. R. Walker, chairman of the Committee of Arrangements, announced the regular order of business, and introduced the Rev. G. A. Farris, who offered the opening prayer.

Welcome addresses were then delivered by the Hon. J. C. Gibbons, Mayor, the Hon. A. P. Dohomy, representing the citizens, and Dr. L. P. McCustion, the Lamar County Medical Association. The President responded in brief but fitting terms.

Upon roll call a quorum was found to be present. Reading minutes of last meeting was, upon motion, dispensed with.

The Secretary read his annual report, as follows:

SECRETARY'S ANNUAL REPORT.

Mr. President and Gentlemen:

I beg to present herewith my annual report, and incorporate with the same a statement as to the publication of the transactions for 1896:

Roll of members, transactions 1896: Ordinary, 327; honorary, 29; total, 356.

Elected at Fort Worth, April 28th et seq., 1896: Ordinary 59; honorary, 2; total, 61.

Dropped from the roll of 1895: By death, 4; by resignation, 1; by non-payment of dues, 68; total dropped, 73.

Deaths since last report: We have lost by death since our last meeting the following members, viz: Dr. W. B. Brooks, of Dallas, died October 4th, 1896; Dr. H. H. Darr, of Caldwell, died November 22nd, 1896; Dr. J. S. Letcher, of Dallas, our second Vice-President, died December 2nd, 1896; Dr. W. H. Wilkes, of Waco, an ex-President, died August 14th, 1896; Dr. B. W. Bristow, of Flatonia, killed July 13th, 1897; Dr. R. S. Gregg, of Manor, an ex-member, died January 22nd, 1897.

The transactions for 1896: Bids were received for the publication of the transactions from the publishers of the Journal of the American Medical Association, Chicago; Knapp Bros., Galveston; Eugene Von Boeckmann, of Austin. There was very little difference in these bids for the cloth covered books, but for paper covers Von Boeckmann's offer of $1.04½ per page, brevier type, and 92½ cents per page, long primer, for 550 copies, being the lowest, was accepted. After a perfect understanding of the terms of agreement, a contract was forwarded to Austin for Von Boeckmann's signature. Much to my surprise on July 12th the contract was returned duly signed but with a change in the figures from $1.04½ and 92½ cents, to $1.49 and $1.32 per page. As the correspondence upon this subject had been long and wearisome and I was anxious to begin the work, I gave the contract to Knapp Bros., whose bid was then lowest.

Von Boeckmann was notified; he wired that he had made an error and claiming the award, also threatening suit if it was not given to him. I was now in a quandary: with a threat of suit by Von Boeckmann, and good cause for action by Knapp if the job was taken from him, from which I was relieved by Knapp Bros., who relinquished the contract rather than involve the Association in a suit for damages. These details are mentioned in explanation of the bill of the latter of $17.75 for composition on the transactions. The matter is left for your determination as to whether the amount should be deducted from the bill of Von Boeckmann.

Knowing that the Treasurer was short in funds, I was reluctantly compelled to issue the transactions in paper covers, the cost being 30 per cent. less. Fifty more copies were ordered than last year, because of the possible admissions upon certificates of County Societies.

The publisher's bill is as follows—550 copies transactions:

336 pages long primer, 92½c per page.....$309 90

137 pages brevier, $1.04½ per page	$143 00
Extra tabular matter	6 00
10 copies morocco bound	7 50
Wrapping, mailing and distributing	5 25
	$471 65
November 6th, by cash	300 00
Balance due	$171 65

Additional expenses incidental to distribution, as follows:

Oct. 26, 1896.	Postage on 400 copies, 13 cents each	$ 52 00
Oct. 28, 1896.	Directing wrappers	3 00
	Express on wrappers	60
Nov. 5, 1896.	Freight and drayage on books	2 20
Nov. 7, 1896.	Express on books	1 15
		$ 58 95
Von Boeckmann's bill		471 65
Total cost		$530 60

Cost per volume, 75 cents; delivered, about $1.

My account with the Association is as follows: H. A. West in account with Texas State Medical Association:

1896. DR.

Aug. 10.	To balance on sale of transactions	$ 9 25
Oct. 25.	Amount received from J. Larendon for postage	75 00
1897.		
Jan. 15.	To copy of transactions sold	1 65
Feb. 22.	To dues, T. W. Taylor	5 00
March 22.	To copy transactions sold	1 00
April 7.	To copy transactions sold	1 00
		$92 90

1896. CR.

By sundry expenses, postage and express, to August 10, 1896		$10 55
By sundry expenses, freight, drayage, express and postage, from Aug. 13, 1896, to April 15, 1897		9 35
Oct. 26.	By cash paid for postage on 400 copies transactions, 13c each	52 00
Oct. 28.	By cash paid for directing wrappers	3 00
1897.		
April 4.	By cash paid to Knapp Bros. on account	10 00

April 14.	By cash paid to Knapp Bros. on account	5 00
	Total credits	$89 90
	Balance due the Association	3 00
		$92 90

Knapp Bros. account is as follows:

1896.

Oct. 23.	550 wrappers	$ 3 25
Oct. 31.	Composition on transactions, 1896	17 75
Nov. 9.	1000 envelopes	3 00

1897.

April 15.	600 programs, envelopes, addressing, mailing and postage	24 75
April 17.	1000 letter heads	4 50
		$53 25

1897.			
April 5.	By cash received of H. A. West	$10 00	
April 14.	By cash received of H. A. West	5 00	15 00
	Balance due		$ 38 25
	Balance due Von Boeckmann		171 65
	Total due		$209 90

THE FINANCIAL STATUS.—Some so-called friends of the Association have been predicting bankruptcy for several years, the abrogation of the initiation fee last year appears to have been a move in that direction. There is no doubt in my mind had the dues been reduced to $3, as was proposed, our pecuniary ruin would have been an accomplished fact. I hoped that the membership would be increased by the plan of admission upon certificate of County Society officers; that the deficiency resulting from loss of initiation fees would have been made up. Immediately after adjournment at Fort Worth, blank certificates were issued and due notice of the same was published; so far, however, there has been but one admission upon certificate, in which transaction the Association lost $5, as the gentleman was a dropped member, and would otherwise have been compelled to pay $10 for reinstatement. The conditions are such, in my opinion, that we cannot expect a large attendance or accession of new members at this meeting. I have no reason to believe that we will collect sufficient to pay our debts and

print the next volume of proceedings. The question confronts us—how are we to meet this emergency? which, in figures, is presented as follows:

Present indebtedness in round numbers	$ 210 00
Secretary's salary (reduced $200)	300 00
Treasurer's salary (reduced $75)	75 00
Stenographer	50 00
Cost of transactions, estimated	600 00
Total	$1235 00

To meet this expenditure we can estimate the following revenue: Receipts of membership dues, 150, $750; receipts from new members, $150; total, $900. Thus leaving an estimated shortage of $335.

How may this deficit be obviated? Two methods suggest themselves to me:

1st. Levy an assessment of $1 per member.

2nd. Have the proceedings published this year in one of the medical journals of the State, the Association to pay $1 for each member who is not already a subscriber to the journal selected.

The latter alternative would be an unfortunate one, as it would break the files not only of members but of libraries which have heretofore obtained an unbroken series. Which horn of the dilemma will you take? Perhaps in your wisdom some better plan may be suggested. I leave the matter for your determination.

There are two problems upon the proper solution of which, in my opinion, the future welfare of the Association is vitally dependent. One of these is the financial question, the other is the correlation of County and District Societies with the State organization. No argument is needful to convince you of the necessity for financial legislation; the statement herein presented is sufficient evidence of the fact. It may be well, however, to call your attention to the sources from which the weakness comes. In addition to the loss of income from abrogation of the initiation fee, there is no method now of enforcing collection of annual dues. According to resolution adopted at the eighteenth annual session, members in arrears for dues over three years were suspended and dropped from the roll. Reinstatement was allowed upon payment of back dues: this rule was subsequently modified so as to allow readmission upon payment of the initiation fee and current year's dues.

Let us see how the rule works now. A member is admitted say in 1896, and pays five dollars for dues for that year, but he defaults for '97, '98 and '99; at the meeting in 1900 he comes in as a new member,

the Association having carried his name upon its roll, and furnished him with its transactions for the three years for $5. The vicious results were apparent immediately upon the repeal of the admission fee: a number of those admitted at Fort Worth were dropped members, reinstated upon payment of $5 instead of $10. It is manifest that the Association cannot live under such financiering. We must either restore the initiation fee or drop from the roll the names of these members whose dues are not paid say by September 1st of each year, when the proceedings are ready for publication.

As to the correlation of County and District Societies with the State Association, this vexed question is as far from a satisfactory settlement as it has ever been. The time is coming, and I believe is near at hand in the interest of a more perfect organization of the medical profession of this country, when a man cannot acquire membership in the "American Medical Association" except through his State society. When that period is reached he ought not to be able to enter the State body except through his local society. In my opinion County and District societies should pay into the treasury of the State Association annual dues at the rate of 50 cents per member, and any society failing to pay such dues at a stated time or defaults in its obligation to enforce upon its members a strict conformity to the Code of Ethics, should be stricken from the roll of affiliating societies. I believe, also, that the initiation fee if restored as to others, should not be exacted from delegates, and that representatives from delegations in proportion to numerical strength should constitute the Nominating Committee.

Legislation along these lines would increase our revenues and materially strengthen the bond of union with affiliating societies as well as stimulate local organizations.

All of which is respectfully submitted by

Your obedient servant,

H. A. WEST,

Secretary, and Chairman Publication Committee.

On motion of Dr. L. Ashton, the report was received and referred to the following committee: Drs. L. Ashton, W. H. Monday and J. H. Sears.

Treasurer Larendon read his annual report, as follows:

TREASURER'S REPORT.

Dr. J. Larendon, in account with the Texas State Medical Association:

RECEIPTS.

1896.

April 28. To cash balance on hand, as per last annual report.....$ 27 33

1897.

April 26. To cash collected from members for dues up to date..... 1085 00—$1112 33

DISBURSEMENTS.

1896.

April 28. By cash paid Colorado Times for printing envelopes, and stamps.....$ 21 00

May 1. By cash paid to stenographer for services..... 50 00

May 1. By cash paid H. A. West for Secretary's salary..... 300 00

May 1. By cash paid J. Larendon for Treasurer's salary..... 150 00

May 1. By cash paid by Treasurer for postage..... 10 00

May 1. By cash paid for franchise tax..... 10 00

May 1. By cash paid Knapp Bros., balance due 1895 transactions..... 77 77

May 21. By cash admission fee returned Dr. J. W. McFall..... 5 00

May 22. By cash admission fee returned Dr. V. H. Hulen..... 5 00

May 27. By cash admission fee returned Dr. Jno. H. Hurt..... 5 00

June 7. By cash paid A. C. Gray for envelopes..... 2 00

July 9. By cash paid Knapp Bros. for 500 blanks..... 3 25

July 18. By cash paid Fred Allen & Co. for gold medal..... 15 00

Aug. 8. By cash paid Hamlin Palmer for writing out constitution and by-laws..... 2 50

Aug. 9. By cash paid for P. O. money orders..... 50

Oct. 23. By cash paid H. A. West, Secretary, wrappers and postage for transactions..... 75 00

Nov. 4. By cash paid Eugene Von Boeckmann for printing transactions (on account)..... 300 00

1897.

April 26. By cash this date balance on hand..... 80 31—$1112 33

E. & O. E.

Respectfully submitted,

J. LARENDON, Treasurer.

Houston, Texas, April 26th, 1897.

On motion of Dr. R. R. Walker the Treasurer's report was received and referred to the same committee appointed to consider that of the Secretary.

President Dr. J. C. Loggins then read his annual message, as follows:

Gentlemen of the Texas State Medical Association:

Most of you doubtless know the changes made in the laws governing our Association, at its last annual meeting in Fort Worth, by which we hoped to gain more time for Section work and the discussion of medical subjects of interest to the busy practitioner, as it is, after all, more important to us to get a full, free expression from the profession of their clinical observations and such an exchange of ideas and observations as will give us a correct understanding of the questions with which we must all deal in our daily practice. I consider this very important to our success as a working, scientific body. Sufficient time must be had for observing the benefits to our Association as a working body from the changes made in our law last April, before an opinion is permissible as to the wisdom or unwisdom of the law as it now holds, and this meeting will very likely serve to impress many with opinions more or less fixed as to the working order of the Association under its present law. I hope, therefore, that all will realize the importance of taking part in the discussion of subjects brought before the various Sections during this session. I shall refrain from offering any suggestions or recommendations.

I had hoped, and at one time thought, it would be my privilege to report to you that the bill endorsed by the Association last year for regulating the practice of medicine in Texas had been made a law after it was given a cordial support by the committees representing this Association, the State Homeopathic Medical Association, and the Eclectic State Medical Association. The joint committee from the Senate and the Legislature reported favorably on the bill, but for some reason it has been sidetracked, and is not likely to become a law at this term of the legislature unless some action looking to a vigorous effort in favor of its passage is made. If you deem it wise to do so, I see no reason why the committee we have on legislation should not be reinforced by the appointment of some additional members with a request that they meet at Austin within the next ten days, and if possible, give to the measure such an impetus as will secure its favorable consideration.

We are reminded by the absence of faces once familiar on the floor of this Association, that the grim harvester, death, has been foreclos-

ing his claims on some who have for years answered to their names at our annual roll-call, and among them some of our brightest and best men. Of those whom I now remember as having answered to the last roll-call and passed on to their final reward are—

Dr. W. H. Welkes, of Waco.
Dr. H. H. Darr, of Caldwell.
Dr. B. W. Bristow, of Flatonia.
Dr. J. S. Letcher, of Dallas.
Dr. W. B. Brooks, of Dallas.

There are possibly others, whom I cannot just now recall. I hope their names will be reported at the proper time, and that the Association may give appropriate expression of respect to the memory of our fallen brothers who died in the harness, loyal to the cause of medical science and the good of mankind.

And now allow me to again express to you my profoundest gratitude for the courteous consideration your partiality has been pleased to honor me with, and the hope that our meeting may be one of the best our Association has ever enjoyed.

On motion the above was referred to the same committee.

Upon call of the Judicial Council a quorum was not found to be present, and it was decided to wait until a little later before appointing substitutes.

The Secretary then read the following letter of resignation of Dr. Larendon:

To the President and Members of the Texas State Medical Association:

GENTLEMEN:—I tender you this my letter of resignation, believing that every person filling a position of honor in this world should retire at the zenith of their glory, while in the full enjoyment of all their faculties. In looking back upon the flight of time, the truth is forced upon me, that I have filled the office of Treasurer of your association, consecutively for the past twenty-five years, and not being as young and sprightly as I used to be, prefer to remain for the balance of my life a "private" in the ranks. Although my term of office has not expired, considering that I have reached the limit, I would respectfully ask that my resignation be accepted upon this my "silver anniversary."

Thanking you for the high honors so frequently conferred, together with the confidence that you have so long reposed in me, I shall always cherish as some of the happy events of my life.

Very respectfully,

J. LARENDON.

DR. J. H. SEARS: As Dr. Larendon has expressed his final determination to resign, I move that we accept his resignation and tender him a vote of thanks for his faithful and efficient services during this long period of twenty-five years.

An amendment was offered and accepted that the Treasurer serve until his successor is elected. The motion carried.

The Section on General Medicine called.

Dr. Lawrence Ashton, of Dallas, Chairman, took the chair.

Dr. H. L. Tate, of Lindale, the Secretary of this Section, being absent, Dr. C. M. Alexander, of Coleman, was appointed in his place.

Dr. Ashton stated that his report had been misplaced, but that he expected to have it here before the Section adjourned.

Dr. H. A. West, of Galveston, read a paper on "Dengue." Discussed by Drs. Paine, Sears, Gardner, Knox, of Hillsboro, and closed by Dr. West.

On motion the paper was received and referred to the Publishing Committee.

DR. LAWRENCE ASHTON, of Dallas: We have the pleasure of having as welcome guests here some gentlemen from Colorado, and St. Louis.

DR. LOGGINS: I move that the gentlemen be accorded the privileges of this floor, and that they become the guests of the Association.

Dr. Monday stated that Dr. C. O. Matthews, who was to read a paper on "Croupous Pneumonia," could not attend.

Dr. Joseph Meyer, of Paris, read a paper, "Diffuse Dermatitis Following Infiltration Anæsthesia," which, upon motion of Dr. Rosser, was received and referred to the Publishing Committee.

The Association adjourned to meet at 8 p. m.

FIRST DAY.—*Evening Session.*

Call to order at 8. p. m. by the President. The Section on Surgery was called.

Dr. Bacon Saunders, of Fort Worth, read a paper, "Supra-

pubic Cystotomy," in lieu of a report on the progress of Surgery.

Dr. R. R. Walker, of Paris, opened the discussion, followed by Drs. Emory Lanphear, of St. Louis, Mo.; C. M. Rosser, of Terrell; Jos. Meyer, of Paris; and closed by Dr. Saunders.

On motion the paper was received and referred to the Publishing Committee.

Dr. A. C. Scott, of Temple, read a paper, "Resection of Inferior Maxilary Bone, with Report of Two Cases."

Discussion opened by Dr. C. M. Rosser, followed by Drs. Gardner, H. A. West, Bacon Saunders, S. C. Red, Jos. Meyer, M. D. Knox, and McQueen, of Honey Grove, the discussion being closed by the author.

On motion the paper was received and referred to the Publishing Committee.

Dr. M. D. Knox, of Hillsboro, read his paper, "Traumatic Injuries of the Nerves," which was discussed by Drs. A. C. Scott, Beggs, of Denver, and closed by Dr. Knox.

On motion this paper was also received and referred.

The Association, at 11 p. m., adjourned to meet at 9 a. m. the following morning.

SECOND DAY.—*Morning Session.*

After call to order by the President, he made the following appointments upon the Judicial Council, to act in place of the absentees: C. S. Bobo, C. M. Alexander, S. B. Kirkpatrick, W. B. Newland, A. C. Scott, J. T. Wilson, S. C. Red, S. E. Hudson, B. W. B. Hill, Joseph Meyer, W. H. Monday, and A. B. Gardner.

Dr. J. T. Wilson offered the following resolution:

WHEREAS, The bill to regulate the practice of medicine recommended by the Texas State Medical Association in regular meeting and presented to the Legislature now in session, has, after various and

sundry amendments by the proper committees, been reported back to both Senate and House with the recommendation that it do pass; and

WHEREAS, The constitutional limit of the session has been nearly reached and no action having been taken, with the strong probability that it will be pigeon-holed; therefore be it

Resolved, That the President of this Association appoint a committee of five members to urge the passage of this act by the present Legislature in any way that may seem to them most effective.

Resolved, That if the bill fails to pass, this committee are directed to draft another bill to be presented to this body at its next annual meeting, for action.

Resolved, That in view of the fact that it is possible that the bill now before the Legislature may become a law, the nominating committee be instructed to present the names of twelve members of the Texas State Medical Association to be submitted to the Governor by the Secretary, from whom he shall select the members of the Board of examiners.

On motion of Dr. Monday, the resolution as read by Dr. Wilson was carried. The President appointed as a committee, in pursuance with the tenor of the resolution, Drs. J. T. Wilson and A. B. Gardner, the other three to be named later.

Dr. W. H. Monday, of the committee to which was referred the Secretary's annual report, read the following:

Mr. President and Gentlemen:

We, your committee, beg to report as follows: We have carefully examined the Treasurer's report, and find same correct.

We have also examined the report of the Secretary, and find that correct. As to the recommendations of the Secretary, we make the following suggestions: That this society first pay its indebtedness out of any money that is in the hands of the Treasurer. Also, your committee recommend to the Publishing Committee that they notify every member who is in arrears that he be urged to pay his dues in order that the transactions may be published and our indebtedness be liquidated. We recommend that only such number of transactions be published as are necessary to furnish each member a copy who has paid his dues. We also recommend great economy on the part of the Publishing Committee; we believe that the transactions can be published for less money. We also recommend that a Committee of Ways and Means, consisting of five members, be appointed to devise some plan by which our financial condition can be permanently improved.

We further recommend that if the Publishing Committee finds that this fails to relieve our financial condition, then they be authorized to make an assessment of one dollar per capita.

With reference to the address and recommendations of the President, we suggest adoption of the paper, and advise in accordance therewith, and that a committee be appointed to reinforce the Legislative Committee at Austin.

L. ASHTON,
W. H. MONDAY,
J. H. SEARS,
Committee.

Dr. Bacon Saunders moved that the report of the committee be received and adopted. The motion was seconded:

Dr. H. A. WEST:

Before the Association votes upon the report, I have a word or two to say. In the first place, in regard to the instructions to the Publishing Committee to exercise greater economy in publishing the Transactions, I will state that if the committee will look at the figures as to the cost of the last transactions they will see that it was done at the lowest possible rate. I received bids from the publishers of the American Medical Journal Association Transactions, the Illinois State Association Transactions, from Knapp Bros., in Galveston, and from Von Boeckmann, in Austin. The contract was awarded to the lowest bidder, as detailed in my report. This was thirty per cent. less than the bid for the binding in cloth. As regards the number of copies, I expected and still hoped that there would be a large accession of members by reason of the plan adopted at Fort Worth last year, by which members of County and District Associations could join the Association simply by a certificate from the Secretary and President of the societies to which they belong. I have stated in my report, that I was disappointed in that regard, and that only one member joined by certificate, and he was an old member, and got in by paying simply $5. The question of finances has not been settled by the report of this committee. The attendance here has been meager—the number of new members small. The effect of abolition of the initiation fee has been to curtail the revenue, so that from the present outlook it does not seem probable that we will collect enough to pay our debts, to say nothing of the publication of the transactions. This committee and the Association expect me to publish the transactions, but they suggest no adequate remedy. We are in exactly the same situation. There is one measure in the way of economy not mentioned in my re-

port, which I will now suggest; that is to say, money may be saved by the election of another Secretary. There are doubtless younger men who are competent and who will perform the services for perhaps a hundred dollars. If in your wisdom, you think best to make a change, my resignation will be promptly offered. I do not wish to calmly rest under the imputation of extravagance, when, on the contrary, the utmost economy was exercised. It is an easy matter to make a scapegoat of the Secretary when the fault lies at other doors, and chiefly to those members who are oblivious to their obligations and refuse to pay their dues.

DR. J. H. SEARS: I thought Dr. West would take exceptions to our report, because I was convinced he had done his best to publish the transactions at the cheapest rate possible, and no extravagance can be charged against him. My idea was to exercise economy by having some of the medical journals of the State publish the next transactions, and to re-establish the initiation fee and make it $2.50, but I was outvoted upon both of these propositions. So far as the Secretary and his salary are concerned, my position is this: We want a competent man, which we now have; the pay is none too much: we would gain nothing by a change. I made a motion before the committee to leave the publication of the proceedings this year to the discretion of the Secretary, and if the money was not on hand not to publish any. This was rejected also. In my opinion, the Association should not be involved in debt. "Pay as you go" has been the doctrine I have adopted all my life. If we will all put our shoulders to the wheel we can get out of this difficulty. Restore the initiation fee to $2.50, and let every man pay his dues and the trouble will be over.

DR. WEST: I would like for the doctor to make a minority report, so the society can have something to work on.

DR. SEARS: I am making it now, and this is the point I want the society to act on now—to restore the initiation fee to half. Dr. Ashton, let's hear from you on these points.

DR. ASHTON: My idea was that we could avoid the necessity of going before the medical profession of this State saying we were a failure financially. I thought that, by an assessment on each member, if the delinquents did not pay up, we could then have our transactions published.

After some further discussion, in which the committee disclaimed any intention of reflecting upon the Secretary, upon motion the report was adopted, empowering the President to appoint another committee to devise ways and means to relieve

the financial embarrassment, and to report action before adjournment.

The Section on Practice of Medicine was reopened, Dr. Ashton in the chair.

The Secretary of the Section, Dr. McCustion, read the following paper: "Several Unusual Symptoms Following Cocaine Poison," by Dr. T. W. Conerly, of San Angelo. On motion it was received and referred to the Publishing Committee.

Dr. J. F. Y. Paine, of Galveston, read "Hopscotch," a paper by Dr. J. H. Sears.

Discussion was opened by Dr. West, who was followed by Drs. Beggs, of Denver, Colo., Red, of Houston, and closed by Sears. On motion the paper was received and referred to the Publishing Committee.

The Judicial Council here brought in its report recommending twelve new members.

Dr. S. C. Red, of Houston, read a paper, "Some Facts in Serum Therapeutics," which was not down on the program. In introducing the subject, he said "This paper is not based upon actual experience, particularly in anti-toxins of diphtheria, because I have not had an opportunity to use it in Houston. Diphtheria has never spread in that locality. I have seen three cases there, but at a time when the use of anti-toxin was not available. Consequently, this paper will not be based upon my experience, but upon the experience of others."

Discussed by Drs. Ashton, of Dallas; E. B. Hershey, H. A. West, M. D. Knox and closed by Dr. Red, and was referred to the Publishing Committee.

The President appointed, as a Committee on Ways and Means, pursuant to resolution heretofore offered, J. T. Wilson, J. F. Y. Paine, M. D. Knox, Bacon Saunders, and Taylor Hudson.

The Section then adjourned until 2:30 p. m.

SECOND DAY.—*Evening Session.*

The President called the Association to order at 2:30 p. m.

The Section on Gynecology was called, and Dr. R. R. Walker, the Chairman, took the chair. Dr. B. F. Church, of Dallas, was selected as Secretary during the absence of Dr. Kirkpatrick.

Dr. H. K. Leake, of Dallas, read his paper, "Pelvic Inflammation, Etiology."

Dr. J. M. Coble read his paper, "Methods of Diagnosis."

Discussion on both Leake's and Coble's papers was opened by Dr. McPhatter, of Denver, followed by Drs. J. F. Y. Paine, H. A. West, Bacon Saunders, McMahan, of Marshall, J. M. Coble, Dr. King, and closed by Leake.

The papers of Drs. Leake and Coble were then received, and on motion referred to the Publishing Committee.

The President appointed a committee of five, in pursuance of a previous resolution, to attend to the medical bill at Austin, the following: J. T. Wilson, A. B. Gardner, Taylor Hudson, L. Ashton, and Z. T. Bundy.

The Judicial Council here brought in its report, recommending members. They also recommended that the Lamar and Hunt Counties Medical Association be admitted into affiliation with the State Association.

Dr. Neil McPhatter, of Denver, Colorado, then read his paper, "Ectopic Gestation."

Discussion was opened by Dr. Sears, followed by Drs. Emory Lanphear, of St. Louis; Fly, of Galveston; McMahan, of Marshall; Hurlburt, of St. Louis, Mo.; Walker, of Paris, and closed by Dr. McPhatter. The paper was, upon motion, received and referred to the Publishing Committee.

Secretary West then read the following communication:

EUREKA SPRINGS, ARK.

To the Members of the Medical Association of Texas, Paris, Texas:

You are courteously invited to attend a regular meeting of the Triennial Medical Association, which meets at Eureka Springs, Arkansas, on May 7, 8, and 9. J. B. FULTON.

On motion this invitation was received and filed.

The Association then adjourned, at 6 p. m., to meet at 9:30 a. m., April 29, 1897.

THIRD DAY.—*Morning Session.*

The President called the meeting to order at 9:30 a. m.

DR. SEARS said: I made a motion on yesterday that we accept the resignation of Dr. Larendon, but I now move that we don't accept it. This is not the time to swap horses when we are crossing the bridge, and he has made us a good treasurer. I therefore move that we reconsider the action which allowed him to resign.

The motion was seconded, and duly carried.

DR. SEARS: Now, I move that Dr. Larendon continue to occupy the position as treasurer, as heretofore. I know he will act for us faithfully as heretofore, and that he will continue to make us a good treasurer. Now, Dr. Larendon, I will be glad for you to withdraw your resignation, and you occupy your same position.

Resignation withdrawn.

The Secretary read the report of the Committee on State Board of Health and Organization of Medical Societies, as follows:

REPORT OF COMMITTEE ON STATE BOARD OF HEALTH T. S. M. A.

To the President and Members of the State Medical Association:

One of the adopted recommendations of the Ways and Means Committee, presented at the last meeting, was as follows: "We therefore respectfully recommend that this body concentrate all its energies upon the passage of a law to regulate the practice of medicine by the creation of a State Board of Medical Examiners, and when that is accomplished, it can undertake, with equal zeal and greater certainty of success, the obtaining a Board of Health."

I decided to abide by the recommendation, and consequently have made no progress toward obtaining a State Board of Health.

Respectfully,

E. A. WOLDERT, Chairman.

Dr. Sears moved that the report be received and the Committee continued. Carried.

Secretary West then read the report of the Committee on Medical Societies, which is as follows:

TEXAS STATE MEDICAL ASSOCIATION.

COMMITTEE ON MEDICAL SOCIETIES.

W. R. BLAILOCK, CHAIRMAN, M'GREGOR, TEXAS.

E. A. WOLDERT, SECRETARY. TYLER, TEXAS.

McGREGOR, TEXAS, 1897.

Dear Doctor: Before you make this visit will you kindly give us your attention for only a few minutes?

Do you ever take an inventory of your medical knowledge to determine how much you are indebted to your predecessors and confreres? You will also soon be classed with the predecessors, and now is the opportunity to do something for your chosen profession.

Did you know, doctor, that there are nearly five thousand physicians in Texas, and that not one-tenth of them belong to the State Medical Association? Is this not astonishing? How can we ever become friends? How can you ever advance your science without co-operating with your brother practitioners? How can you ever hope to obtain a medical law, a board of health and other legislation, if we continue in this condition? This is due in greater part to a lack of organization, and we urgently ask your aid in this work. We will, therefore, appeal to you personally and ask you to call together the graduates of medicine (regular) of your county or district at the earliest possible moment to organize medical societies and elect delegates to each annual meeting of the State Medical Association, through which medium only we can advance our cause. The only expense in joining the State Association has been reduced to five dollars for annual dues. Hoping to hear from you very soon, we remain, very respectfully, W. R. Blailock, McGregor; E. A. Woldert, Tyler; L. L. Shropshire, San Antonio; J. D. Becton, McKinney; S. E. Hudson, Austin, Committee.

T. W. Conerly, Chairman, San Angelo; J. H. Hurt, Big Springs; L. M. Berg, Laredo, Sub-Committee.

REPORT OF THE COMMITTEE ON MEDICAL SOCIETIES, T. S. M. A.

To the President and Members of the State Medical Association:

According to an adopted recommendation of the Committee on Ways and Means, of the State Medical Association, a committee of five members was appointed to act as a Committee on Medical Societies.

whose duty it should be to organize County and District Medical Societies throughout the State, and the sending of delegates from those bodies to the State Association. This committee, therefore, begs leave to make the following report:

OUTLINE OF THE WORK.

Soon after the appointment of this committee, we endeavored to find out the number of counties in the State represented in the State Association, and also those counties which had no representatives. Your committee then divided the State geographically into the following nine districts, viz: 1st, North Texas; 2nd, Northwest Texas; 3rd, Northeast Texas; 4th, East Texas; 5th, Central Texas; 6th, West Texas; 7th, South Texas; 8th, Southeast Texas; 9th, Southwest Texas.

I.

North Texas.—Lat. 32-34, Long. 96-99; twenty-six counties, and one hundred and eight members in the State Association.

II.

Northwest Texas.—Lat. 32-36½, Long. 99-103; sixty-six counties, and eight members.

III.

Northeast Texas.—Lat. 32-34, Long. 94-96; twenty-one counties, and twenty-five members.

IV.

East Texas.—Lat. 30-32, Long. 93½-96; twenty-three counties, and eighteen members.

V.

Central Texas.—Lat. 30-32, Long. 96-99; twenty-nine counties and ninety-six members.

VI.

West Texas.—Lat. 30-32, Long. 99-106½; thirty-two counties and six members.

VII.

South Texas.—Lat. 26-30, Long. 96-99; twenty-nine counties and thirty-two members.

VIII.

Southwest Texas.—Lat. 27-30, Long. 99-101½; fourteen counties and one member.

IX.

Southeast Texas.—Lat. 28-30, Long. 93½-96; six counties and twenty-nine members.

Or in other words, out of 246 counties in the State, there are ninety-

one represented, or only about thirty-seven per cent. of all the counties represented in the State Medical Association.

The extreme northwest, the west and southwest districts are seen to be least represented. The committee found it impossible to visit all the different sections personally, and circular letters (which see above) were sent to physicians throughout the entire State, appealing to them by calling to mind their duty to the medical profession, especially their State Association, urgently asking their co-operation in organizing county and district societies, and the sending of delegates to this body.

To also aid in this work, your committee deemed it a necessity to appoint a subcommittee.

The districts were assigned to different members of the committee, as follows: Dr. Joe D. Becton, McKinney, North and Northwest Texas; Dr. Albert Woldert, Tyler, Northeast and East Texas; Dr. L. L. Shropshire, San Antonio, Southwest Texas: Dr. S. E. Hudson, Austin, South and Southeast Texas; and Dr. W. R. Blailock, McGregor, Central and West Texas.

Of the subcommittee, Dr. John H. Hurt, Big Springs, was to aid Dr. Becton in Northwest Texas; Dr. T. W. Conerly, of San Angelo, was to aid Dr. Blailock in West Texas, and Dr. L. M. Berg, Laredo, was to assist Dr. Shropshire in Southwest Texas. Besides this, members who have visited other sections of their districts, have appealed personally to physicians to organize societies, thus endeavoring to present the claims of the State Association upon them.

PROGRESS OF THE WORK.

While the progress has not been, at first sight, encouraging, when we remember that this is the first year specially devoted to this subject, and considering the lax methods heretofore prevailing along this line, and considering the sparsely settled districts of the extreme West, Northwest and Southwest portions of the State, the committee do not feel altogether discouraged.

We beg leave to note that during the past year several medical societies have been organized, among which are the South Texas Medical Association, the Brazos Valley Medical Association, and the Galveston Medical Society. There are possibly others, but such information is not in possession of your committee.

The Secretary of the State Association, Dr. West, asked for a complete roster of every association in affiliation with the State Association. A public address was issued to the profession of the State, and letters were repeatedly written to physicians in regard to this question, but only a partial list has been received. At the same time, all

local societies were solicited to become auxiliary branches of the State Association.

A space is left here for the insertion of the names of other societies, whether in affiliation with the State Association or not, and all members are now invited to report any county or district society within their knowledge, also to kindly give date of organization, list of officers, number of members, time and place of meeting.

Just here your committee desires to bring forward the manner in which its progress has been hampered by the fact of the utter negligence of many physicians to reply to letters desiring information in regard to organization, and to furnish the roster requested by the Secretary.

Not only do physicians outside of the State Association fail to respond in this matter (and many others), but also members of it. There never yet has lived a physician too busy to keep up his correspondence in organizing his profession, and it is only due to utter neglect, as has been before mentioned.

It will require years of persistent effort on the part of the Committee on Medical Societies to procure all the information in reference to societies, and to present the claims which the State Association may make upon all of them.

RECOMMENDATIONS OFFERED.

While the present number (5) on the Committee on Medical Societies have canvassed the entire State in the manner above mentioned, it is recommended that the number be increased to as many as there are secretaries of medical societies in the State in affiliation with this body, and create them a Committee on Medical Societies.

The various secretaries of medical societies should be especially created a working body to carry on this work, and we respectfully ask that this Association then request of each medical society to have a special time designated at each meeting, and printed on the programs, at which time to advise organization of societies, to invite members to join the State Association, and the election of delegates to this body. In counties where there are now no regular societies, this committee should carry on the work even better than the committee as now constituted.

Whenever any member of the committee is called to different sections of the State, he should work with untiring energy for this especial end. Each member of the State Association could do an infinite amount of good by speaking for it.

After a full roster of each county and district society has been obtained in the manner above indicated, we respectfully request the

Secretary of the State Association to mail to each secretary of the local societies blank applications for membership in the State Association, together with such other matter as he may think will best encourage their willingness to join.

We now respectfully ask for the discharge of the committee.

W. R. BLAILOCK,
L. L. SHROPSHIRE,
S. E. HUDSON,
J. L. BECTON,
E. A. WOLDERT,
Committee.

Dr. Sears moved the adoption of the report, suggesting that, instead of adding the secretaries only that the presidents of the different associations be added, and that the committee be continued.

DR. C. M. ALEXANDER: I would like to add a substitute, that we invite that committee to attend the meeting themselves. I don't believe there is more than one of them here.

DR. WEST: I am glad Dr. Sears' resolution carries with it a refusal to discharge this committee. It is true that circumstances have prevented any of them from being present at this meeting, but they have demonstrated their willingness and ability to work, and in my opinion more can be accomplished for the upbuilding of the Association along the lines suggested by this committee's report than by any other means.

DR. SEARS: The committee has done good work, and have got themselves in the proper harness, and know how to work better than new men could. By adding the Secretary's and President's names to that committee they can work more efficiently than before. So far as their attendance is concerned, there must be some good reason for their not being there. I hope the committee will be continued in the service with the additional re-inforcement of the Secretary and the President.

The President put the question, to include the different Secretaries and Presidents throughout the State. The motion carried, and the report was received with that amendment.

The Secretary read a communication from the State Pharmaceutical Association, which is as follows:

To the Texas State Medical Association, in Convention at Paris, Texas, April, 1897:

GENTLEMEN: As a Committee on "Medical Conference," appointed by the Texas State Pharmaceutical Association at its last meeting in Dallas, and in mutual interest with your fraternity, also that we may be enabled to go before our people at Galveston in next month with a more intelligent report, we trust it will not be asking too much of your valuable time to, at some convenient hour during your session, ascertain the sentiment of your members on the following subjects:

1. Aside from the pharmacopœial preparations of 1890, which are the only official ones, after whose formulæ do you usually direct your prescriptions prepared?

2. Whether official or unofficial remedies are prescribed, of whose compounding do you prefer; that of your local druggist or of some known manufacturer of these specialties?

3. How generally is the "*National Formulary*" in use among your profession? Your endorsement of it, and do its formulæ, embracing pills, powders, plasters, ointments, mixtures, solutions, infusions, tinctures, elixirs, elixir compounds, fluid extract compounds, etc., supply the ordinary demands of the physician, and do you find your druggist usually competent and equipped for this impromptu preparation?

4. What is necessary, if anything, upon the part of the pharmacist and physician, or the work itself, (referring to the *National Formulary* as revised last year by the American Pharmaceutical Association) to make it of practical utility to both professions?

A copy of this part of your proceedings will guide us in making our report. Very respectfully submitted,

J. M. BROOKS, Chairman, Clifton, Texas;
C. M. LYON, Lancaster, Texas;
G. R. WALLACE, McKinney, Texas,
Committee.

Dr. Sears moved that the communication be received, and that, if he can do so, the Secretary be instructed to answer it.

DR. WEST: I believe as this is an important matter, and one which needs careful deliberation, that it should be referred to a committee of three, to be appointed by the Association, who are to report before the Association adjourns.

The motion was duly seconded and carried, and the President appointed as a committee of three to consider the communication, S. C. Red, of Houston; Dr. McMahan, of Marshall, and Dr. Taylor Hudson.

The Secretary read a communication from L. S. Bishop, of New York City, requesting the co-operation of the Association in the work of the Section on State Medicine of the American Medical Association; also one from Dr. William Warren Potter, President of the National Confederation of State Medical Examiners and Licensing Boards, requesting representation at the meeting to take place in Philadelphia, May 31st, 1897.

DR. WEST: I now move that the Secretary be authorized to furnish Dr. Potter with the list of the names of the twelve members whose names are to be furnished the Governor from which to select the members of the Examining Board in conformity with the resolution on yesterday offered by Dr. J. T. Wilson.

The motion was duly seconded and carried.

The Secretary read a communication from a New Mexico Society in regard to "The Weather Bureau in its Relation to Medical Climatology."

Resolutions adopted by the Medical Society of Bernalillo, New Mexico, at the meeting held January 15th, 1897:

WHEREAS, This Society is impressed with a sense of the supreme value of the methods and work of the weather bureau of the United States, in their relation to the science of medical climatology, as illustrated in the series of statistical tables published in Vol. 1, Annual Report for 1885, of the signal service (now weather bureau); said tables embracing all the data bearing upon nearly every meteorological feature necessary to a complete determination of the climate of many points scattered over the whole of the United States, so far as these data had accumulated up to the date of that report, and

WHEREAS, The value of these tables would be greatly enhanced by working into them the data accumulated in the course of the eleven years which have elapsed since 1885, and a volume of immense value to the medical profession might be produced by appending to these tables, brought up to date, some account of the topography, geological formation, natural drainage, nature and source of water supply, vicinity of mineral springs, etc., etc., at each station where observations are taken; therefore be it

Resolved, By the Medical Society of Bernalillo County, New Mexico, that the chief of the weather bureau of the United States be respect-

fully requested to take this matter into consideration; that the American Climatological Association be requested to co-operate with the weather bureau through a committee appointed for that purpose, if mutually agreeable; that copies of these resolutions be transmitted to the chief of the weather bureau, to the surgeons-general of the army, navy and marine hospital service, to at least three of the principal medical journals of the United States, to the American Public Health Association and the American Medical Association, and to every State Medical Association in the United States, and their co-operation invited.

DR. WEST: I think it would be wise, in view of the importance of this work and of the increasing interest of advertising to the world the advantages of various parts of Texas as health resorts, it would be advisable to appoint a committee to take this matter into consideration and to co-operate with other societies in securing the data and furnishing the information. I would suggest to this end that Dr. I. M. Cline, who is a member of this Association and who has charge of the weather bureau in Galveston, be appointed chairman of this committee with authority to appoint his co-committeemen, and that they interest themselves in this work.

The motion was seconded and carried.

The Secretary read a communication from the Mayor of Temple, Texas, extending a cordial invitation and hearty welcome to assemble in that city at the next annual meeting, which was referred to the Nominating Committee.

The Secretary read a communication from Dr. P. C. Coleman, regretting his inability to be present, and expressing his earnest wishes for a successful meeting.

Dr. Bacon Saunders read the following report of the Committee on Ways and Means:

PARIS, TEXAS, April 29th, 1897.

The Committee on Ways and Means met and elected Dr. J. T. Wilson, President, and Dr. Bacon Saunders, Secretary. The report of Secretary West was read. Moved that Dr. West be requested to deduct the bill of Knapp Bros. for $17.75 from the amount the Association owes Von Boeckmann on transactions.

The following amendment to the Constitution recommended: That all members who have failed to pay their annual dues by September 1st of each year, be dropped from the roll of members, after the Secretary has notified them of their delinquency.

Resolved, That the Association be requested to make a voluntary contribution from every member present at this meeting to meet the deficiency of the Association, and that each member of the committee pledges himself to head the list with $5.

Resolved, further, That the Secretary be requested to make an urgent appeal to all members in arrears, setting forth our financial embarrassment.

We recommend that each local society in affiliation with this Association be charged annual dues of $5.

We also suggest an initiation fee of $2.50 to be charged each new member in addition to payment in advance of the annual dues as now required.

This committee recommends that the Association fully endorse the administration of Dr. West in his efforts to manage the affairs of the Association in such a way as to keep it as nearly as possible out of debt; and further, that a vote of thanks be extended him for the efficient manner in which he has performed his duties.

On motion the report of the committee was received, and at the conclusion of the reading of the report an urgent appeal was made by Dr. Saunders, Dr. Sears and others for voluntary contributions. About a hundred dollars was subscribed.

Dr. Taylor Hudson moved that the Treasurer be authorized to draw a sight draft on every member of the Association who is at present in arrears, it being understood that those members who do not pay the draft will be dropped. Carried.

Dr. Sears moved that the Secretary do not publish the transactions until there be enough money with which to pay for them. Carried.

Dr. S. C. Red then read the report of the committee to whom was referred the communication from the Texas State Pharmaceutical Association. On motion this report was received and adopted and the committee discharged.

J. C. Loggins, President of the State Medical Association:

We, your committee on petition of State Pharmaceutical Association, beg leave to report as follows:

Query No. I. None.

Query No. II. Local druggists' compounds preferred.

Query No. III. The *National Formulary* meets the demand in non-official compounding.

Query No. IV. We consider the *National Formulary* satisfactory.

A. ERNEST MCMAHON,
TAYLOR HUDSON,
S. C. RED,
Committee.

The Judicial Council here brought in its report recommending members, which was duly adopted.

The Section on Ophthalmology, Otology, etc., was called, and Dr. Vard H. Hulen, chairman, took the chair.

Dr. Hulen read his report, which on motion was received and referred to the Publishing Committee.

Dr. R. H. Chilton, of Dallas, then read his paper, "Optic Neuritis." Discussion was opened by Dr. Lanphear, followed by Dr. Ball, of St. Louis, and closed by Dr. Chilton.

On motion the paper was received and referred to the Publishing Committee.

Dr. R. F. Miller read his paper, "The Oculist and the Code of Ethics." Dr. Chilton opened the discussion, and was followed by Drs. Sears, Walker, Gardner, Crowdus, and then closed by Dr. Miller.

Adjourned at 12:30 p. m.

THIRD DAY.—*Evening Session.*

President Loggins called the meeting to order at 2:30 p. m.

Under Section on Gynecology, Dr. Emory Lanphear read his paper, "Cure of Cancer of the Uterus, with Presentation of Specimens."

Discussion was opened by Dr. Hurlburt, of St. Louis, who was followed by Drs. Sears, Walker and Joseph Meyer, and closed by Dr. Lanphear. On motion it was received and referred to the Publishing Committee.

Dr. W. H. Monday, of Terrell, then read his paper, "Treatment of Abortions," which, after discussion by Drs. Sears, Gardner and McNew, was, on motion, received and referred to the Publishing Committee.

Dr. Joseph Meyer, of Paris, read a paper (not down on program) "A Preference for the Supra-Vaginal over the Vaginal Route." This was discussed by Drs. Hurlburt, of St. Louis, McNew, of Honey Grove, Baldwin, of Paris, and then closed by Dr. Meyer. On motion this was received and referred to the Publishing Committee.

It was then announced that all other papers in this section be referred to the Publishing Committee by caption.

Dr. West announced that Dr. Marberry had a patient there who he wished examined. The patient was brought in.

At this juncture Dr. LeMond, of Denver, arose and said:

GENTLEMEN: I will have to leave after a little, and I could not do so without saying a few words. Myself and several friends of Denver, were invited some time ago to attend this meeting. I did so, and brought the friends. We have been so hospitably received that you have completely captivated my crowd. Now, if you want to know why I look forward each year with so much pleasure to your meetings, just ask a boy why he loves his mother. I was born and raised in Texas—and it is the greatest pleasure of life for me to return year after year and meet my old friends. I am also requested to say for those who are with me, that we would take special delight in entertaining you physicians in Denver at any time. Now, I make a personal request, and I represent quite a number of my immediate faculty, that we would like for an excursion of physicians of Texas to come to Denver, where they can breathe some of our pure mountain air; where we can show you how nice we can treat you. You would think we were all Texans there. I love Colorado. My interests are there, but in all candor I love Texas more. We want you to visit us, so we can convince you, not by words only, but by deeds, how much we appreciate your hospitality. Our State Association convenes on the 14th of May in Denver. We extend to you a cordial invitation to attend and be our guests. I leave early tomorrow morning, but I hope to be with you from year to year in the future.

DR. WEST: I wish to say one word in response to the very feeling remarks of Dr. LeMond and express my appreciation, and I believe

that of the entire Association, in the pleasure we have had in the visit of this delegation from Denver. They and our other visitors have aided very materially to the interest of this meeting. I extend to them a cordial invitation to visit us not only next year, but whenever they can. I further want to say that we reciprocate to the greatest extent all these kindly sentiments which Dr. LeMond has so feelingly expressed. The ties that bind Colorado and Texas are getting stronger and stronger with time. We in Galveston especially, are happy in every way possible to make stronger the bonds which unite us in commercial and fraternal relations.

President Loggins then announced that it had always been the custom to have memorial services at each year's gathering, out of respect to those who had died during the year, and he requested the Secretary to call off the names of the departed ones.

Secretary West called off the following names: Dr. W. H. Wilkes, Waco; Dr. H. H. Darr, Caldwell; Dr. B. W. Bristow, Flatonia; Dr. J. S. Letcher, Dallas; Dr. W. B. Brooks, Dallas.

Dr. Gardner moved that a committee of five be appointed to draft suitable resolutions regarding the death of the deceased brethren. This was seconded and duly carried.

The Nominating Committee then brought in its report, which is as follows:

Dr. J. C. Loggins, State Medical Association:

Your Nominating Committee beg leave to make the following report:

For President—J. T. Wilson, of Sherman, and Bacon Saunders, of Fort Worth.

For Vice-President—S. C. Red, of Houston, 1st; A. C. Scott, of Temple, 2nd; C. M. Alexander, of Coleman, 3rd.

Members of Judicial Council—R. R. Walker, of Paris; D. F. King, of Sherman; Taylor Hudson, of Belton; C. S. Bobo, of Boyd.

Place of next meeting, Houston; time, fourth Tuesday in April, 1898.

Chairman of Committee of Arrangements—J. A. Mullin, Houston.

We recommend that the Secretary be authorized to furnish members in good standing, so requesting, certificates as delegates to the American Medical Association. The names of those members of the Association to be submitted to the Governor (Charles Culberson), from which

he is to select six (6) to act as members of the State Medical Examining Board, provided that the present bill before the legislature becomes a law, are as follows: J. T. Wilson, of Sherman; T. J. Bell, of Tyler; J. H. Sears, of Waco; J. C. Loggins, of Ennis; B. E. Hadra, of San Antonio; W. R. Blailock, of McGregor; D. F. Stuart, of Houston; J. C. Irwin, of McKinney; J. W. McLaughlin, of Austin; P. C. Coleman, of Colorado; J. E. Gilcreest, of Gainesville; S. Eagon, of Dallas.

(Signed) S. C. RED, Secretary.

It was moved and carried that the report be received and committee discharged, and that the Association proceed with the balloting for president. A ballot was taken, resulting:

For Saunders, 20.

For Wilson, 12.

The Secretary announced that Dr. Bacon Saunders had been elected, and Dr. Gardner moved that the election of Dr. Saunders be unanimous. The motion was carried.

Dr. J. M. Coble, of Dallas, was appointed as a delegate to the American Medical Association.

The retiring President selected Drs. Gardner and Pope to conduct President-elect Saunders to the chair.

DR. LOGGINS: It is a great pleasure to me that the Association has elected so distinguished a gentleman as Dr. Saunders, who needs no introduction from me: our President-elect, Dr. Bacon Saunders.

DR. SAUNDERS: What shall I say? I know it is customary, on occasions like this, to say one is surprised, and how much one is unfitted for the position, and all that kind of a thing. No one realizes how great a mistake the Association has made in electing me, but, at the same time, there is nobody here who knows so fully as I do how I love, honor and revere the State Medical Association and the profession of Texas—that profession in which my honored and grey-headed father laid down his life; in this very building he met the last convocation of physicians that he ever met. The last time I ever heard the clapping of the hands of my fellow brothers and doctors was when he walked into that door unexpectedly, when he was cheered in his white hair and feeble old age. If there was no other thing to incite me to devote my best efforts to building up the medical profession of the State than the memory of his life, I would pledge it to you here and now. As you have honored me—and gentlemen, it is an honor; there is no man in the profession of Texas to-day who should not feel honored by this po-

sition—I beg of you that you give me that assistance, in my feeble efforts, without which I know I cannot conduct this Association with that degree of success which its history in the past and its promises for the future lead you and its friends in and out of this State to expect. This is a critical time in the history of the Association, and, if I could, aided by your efforts, one and all, be an humble factor in bringing this body up to something near what it ought to be, I should consider that I had done one of the greatest works of my life. Now, I beg of you, as an humble member upon whom you have placed this trust, that you will come to my aid, and when we go away from this meeting, every one of you a missionary to your neighbors to solicit support and attendance of every regular doctor in your neighborhood, and that you bring them with you to Houston next April, and that you begin your work, not next Christmas, not next February, not next March, or the first of next April as an April fool, but that you begin it now.

As I intimated this morning, our enemies may be rejoicing somewhat in our discomfiture—our friends may be discouraged. Let us disappoint the former and encourage the latter. I know what the doctors of Texas are. I know that they don't intend to neglect this Association, but they intend to sustain it and build it up. Now, it has been simply a matter of neglect, and if we call their attention to the necessities along this line they will come to our relief in solid phalanx which will be irresistible.

Again I thank you most sincerely for this distinguished honor.

The President appointed Drs. Miller and Monday to conduct Dr. S. C. Red, the First Vice-President-elect, to the chair.

DR. SAUNDERS: It is my pleasure to introduce to you your Vice-President, a gentleman who, I feel, will honor you and distinguish himself during the next administration as your First Vice-President—Dr. Red, of Houston.

DR. RED: It has been the custom from time immemorial that the Vice-President only acts in the absence of the President, so in this case I will just thank you for the honor.

The newly-elected Vice-Presidents, Drs. Scott and Alexander, were absent.

At this juncture the Association adjourned to meet to-morrow, at 9:30 a. m.

FOURTH DAY.—*Morning Session.*

The Association was convened by President Saunders at 9:30 a. m.

A call being made for a session of the Judicial Council, the President appoints Dr. M. D. Knox to fill a vacancy caused by the absence of Dr. Bobo.

The Secretary then offered and read the following:

Resolved, That we hereby tender the thanks of the Texas State Medical Association to the Lamar County Medical Society; to the Committee of Arrangements; to the Reception Committee; to the physicians of the medical profession of Paris; to the press, and to the citizens of Paris for their many acts of hospitality and kindness extended to us during this session.

On motion the above was adopted.

There being no more regular business, the executive session closed and the Section on Surgery was opened.

DR. BENBROOK: In view of the fact that there are so few members present this morning, I make a motion that the remaining papers that have not been read before this Association be referred to the Publishing Committee without reading.

No second.

Dr. J. T. Benbrook, of Rockwall, Texas, read his paper, "Gun-Shot Wounds: Two Unique Cases."

This paper was discussed by Drs. Baldwin, Paine, Knox, Fly and Milliken, and closed by Dr. Benbrook. Upon motion the same was received and referred to the Publishing Committee.

Dr. B. F. Church, of Dallas, Texas, read his paper, "Thrombosis of the Lateral Sinus."

Discussion of this paper was opened by Dr. A. J. Rush, of Paris, who was followed by Drs. S. C. Red, Fly, of Galveston, and then closed by Dr. Church. On motion this paper was received and referred to the Publishing Committee.

There being no further work in the Section of Surgery, same

was closed, and the Section on Ophthalmology, Otology, etc., was reopened.

Dr. J. O. McReynolds, of Dallas, stated that as the work of the Section was pretty near over he would present a case. He did this, reciting some personal experience. Discussion of the subject matter was opened by Dr. Church, who was followed by Dr. Milliken, and then closed by Dr. McReynolds.

Dr. Red moved that all papers in the hands of the Association not having their authors present, be referred by caption to the Publishing Committee. Carried.

DR. BOBO: In view of the fact that the Nominating Committee failed to nominate an orator for the next meeting, I move that we elect Dr. I. N. Suttle, of Corsicana, as orator for the ensuing year.

Carried, and Dr. Suttle was pronounced orator for the ensuing year.

THE PRESIDENT'S ADDRESS.—J. C. LOGGINS, ENNIS.

Ladies and Gentlemen, Members of the Texas State Medical Association:

It is a real pleasure to meet all who have honored the occasion with teir presence, and more, I esteem it a special pleasure to meet so many citizens of this city, who have left the pleasures and enjoyments of their home circle to mix and mingle for a time with the members of the medical profession of Texas at this annual meeting of the Texas State Medical Association.

While trusting that the occasion may be mutually interesting and pleasant to all, I assure you that nothing could be more gratifying to me than to be able in some way to add to the pleasures of the hour, to intensify or enhance, if possible, your interest in the proceedings this evening, but generous nature, in the beneficence of her wisdom and goodness, failed to endow me with that rarest gift, a matchless oratory, and as a public speaker I am not a success, hence if I should attempt to entertain you with the melody of eloquent rhetoric it would be more than a failure—it would be a tedious tax to your patience, nor am I justified in the belief that a greater degree of success is possible, if I should attempt to charm and lead your minds to new ideas or advanced convictions concerning any question of medical science by the forensic prowess of a fierce and forceful logic, for this is equally beyond the range of my accomplishments. I hope, therefore, none will feel

disappointed when I ask for only a brief, patient hearing, while I, as a doctor, will endeavor to submit for your consideration some thoughts on the doctor, that, I hope, may not be without interest alike to the public and the medical profession.

Who is the doctor? What prerequisite qualifications should one have before he is accorded the distinction of being recognized by you as a doctor? I had almost said the "honorable distinction," till I was reminded of the legal requirements in this State for those seeking to enter the ranks of the medical profession and aspiring to that confidence and respectful consideration so generally given to the doctor. If we attempt to answer the question as to the necessary qualifications of the doctor from a legal aspect of the question, we find that the law is different in different sections. While the common law presumes that the doctor, in the discharge of his professional duties, uses such a degree of diligence, attention and skill as is necessary to the success of the duties which he undertakes, it does not attempt to set up or define a standard of proficiency beyond certain legal requirements, as matters of proof in actions for mal-practice.

The law in Great Britain provides for a general council of medical education and registration, with branch councils for England, Ireland and Scotland. These councils of medical education appoint a registrar each for England, Ireland and Scotland, whose duty it is to keep a correct register of the names and addresses of all registered practitioners in their respective dominions, and to erase from their registers the names of those who die, to transmit to the registrar of the general council a correct transcript of such registrations and erasures from time to time, as the council directs. The registrar of the general council is required by law to have printed and distributed under the direction of the general council every year, a correct register of the names with the respective residences and medical titles, diplomas, etc., of all persons appearing on the general register, as existing on January 1st, each year. Such register is called the "Medical Register" and is accepted in law as evidence that the persons therein specified are registered according to law, and entitled to such rights and privileges as are accorded to the medical practitioners in their respective sections. In England and Ireland any registered medical practitioner convicted of any felony or misdemeanor, or in Scotland for any crime or offense, or shall be, after due inquiry, judged by the general council to have been guilty of infamous conduct in any professional respect, the general council may direct the registrar to erase the name of such medical practitioner from the register. No person is permitted to receive compensation for medical or surgical service rendered unless he is legally registered as a medical practitioner. The registered practitioners

there enjoy such exemptions in the main as are extended in this country to the medical man. There, none but registered practitioners are eligible to any medical position in the army, navy, or any hospital or marine service, or any asylum, prison, poorhouse, or any other place provided for rendering aid to the sick, injured or infirm.

A certificate given under the law in response to any legal requirements is not valid when coming from a medical practitioner, unless the signer of the certificate is legally registered. The procuring, or attempting to procure, a registration on false or fraudulent representation is punishable by fine and imprisonment, and falsely pretending to be or assuming the title of physician or doctor, is punishable by fine. A person cannot be lawfully registered without passing the qualifying examination, which under the law is an examination held for the purpose of granting a diploma or diplomas conferring the right of registration under the medical acts. The standard of proficiency of the examinations are such as guarantee the possession of that knowledge and skill requisite for the efficient practice of medicine and surgery and its allied branches, and are conducted by the recognized medical schools of the country under the supervision or inspection of inspectors appointed by the general council of medical education, whose duty it is to be present at the examination and see that the standard of proficiency required is maintained. The inspectors are not permitted to interfere with the examination, but report to the general council of medical education their opinion as to the sufficiency or insufficiency of all examinations, together with such other matters connected therewith as may be deemed necessary. If it appears to the general council that the standard of proficiency in medicine or surgery, or any of the subjects or branches thereof, required at such examination, by any such examining body is insufficient, the general council so report to her majesty's privy council, who declares that the examination of such body or bodies shall not be deemed a qualifying examination for registration, and which order can be revoked only by her majesty with the advice of her privy council, and after a report from the council of medical education. This is a very brief synopsis of the law regulating the practice of medicine in the great English-speaking countries of the old world, and that their intention was and is to protect the public from being imposed upon by false or fraudulent ignorance, is too apparent to need any proofs, and that they are calculated to secure a high standard of medical education must be abundantly apparent to any candid observer. The English colonies, remote from the continent, have similar safeguards in the form of laws regulating the practice of medicine, [illegible] serves to restrain incompetent men from offering to practice med- [illegible] of its branches.

In our own country, I regret to say, there is not such a uniformity of safeguards thrown around the people as there is in England, to protect them against the ignorant greed and avarice of medical mountebanks and charlatans. While all the States of the Union except, possibly, two or three, have laws regulating the practice of medicine, most of them such as to accomplish fairly well the objects for which they were intended, there are some much better than others, for the reason that they serve to inspire to a greater degree of proficiency in medical and scientific attainment. Since I cannot in the short space of time that I shall tax your patience tonight, notice the laws regulating the practice of medicine in all the different States, I desire, for purposes of comparison, to call your attention to the law in New York, which I consider one of the best, if not the best, of any State in the Union, and the law in Texas, which is one of the poorest, if indeed it is not the poorest excuse for a law regulating the practice of medicine that today mars the statutes of any enlightened country. In New York no person can lawfully practice medicine unless licensed by the regents of the University of the State of New York, and registered as required by the law, nor can any person lawfully practice medicine who has ever been convicted of a felony by any court, or whose authority to practice is suspended or revoked by the regents on the recommendation of the State Board. There are three separate State boards of medical examiners of seven members each, representing respectively the Medical Society of the State, the Homeopathic Medical Society of the State, and the Eclectic Medical Society of the State. The regents of the university of the State appoint the examiners from lists of nominees furnished by the respective societies. Each nominee, before his appointment, is required to furnish to the regents proof that he has received the degree of doctor of medicine from some registered medical school, and that he has legally practiced medicine in the State at least five years. If no list of nominees are furnished the regents they appoint from the members in good standing in the several societies without restriction. Before being admitted for examination, the candidate seeking a license to practice medicine must pay a fee of $25 and furnish satisfactory evidence that he is 21 years of age, of good moral character and has the general education necessary to receiving the degree of bachelor or doctor of medicine in the State, or stand a regent's examination in arithmetic, elementary English, geography, spelling, United States history, English composition and physics, and has studied medicine not less than three full years, including three satisfactory courses in three different academic years in a medical school, registered as maintaining at the time a satisfactory standard, and has either received the degree as bachelor or

doctor of medicine from some registered medical school or a diploma or license conferring the full right to practice medicine in some foreign country. Each board is required to submit to the regents, as required, lists of suitable questions for a thorough examination in anatomy, physiology, hygiene, chemistry, surgery, obstetrics, pathology and diagnosis and therapeutics, including practice and materia medica. From these lists the regents prepare question papers for all these subjects, which at any examination are required to be the same for all candidates, except that in therapeutics, practice and materia medica all questions submitted to any candidate, shall be chosen from those prepared by the board selected by that candidate, and shall be in harmony with the tenets of that school as determined by its State Board of Medical Examiners.

Examinations for a license are required to be given in at least four convenient places in the State at least four times annually in accordance with the regents' rules, and exclusively in writing and in English. Each examination is conducted by a regents' examiner, who shall not be one of the medical examiners: at the close of each examination the regents' examiner in charge is required to deliver the question and answer papers to the board selected by each candidate, and such board, without delay, is required to examine and mark the answers and transmit to the regents an official report stating the standing of each candidate in each branch and of his general average, and whether the board recommends that a license be issued; such report must include the questions and answers and is filed in the public records of the university. On receiving from the State Board an official report that the applicant has successfully passed the examination and is recommended for a license, the regents are required to issue to him, if in their judgment he is duly qualified therefor, a license to practice medicine. Before a license is issued it must be numbered and recorded in the regent's office, and its number noted on the license; every license to practice medicine is required, before the licensee begins to practice, to be registered in the county clerk's office, where such practice is to be pursued, together with his name, place and date of birth, and the sources, number and date of license. Before registering each licensee is required to file an affidavit that he is the person named in the license, and had, before receiving the same, complied with all the requirements as to attendance, terms and amount of study and examinations required by law and the rules of the university as preliminary to the conferment thereof; that no money was paid for such license, except the regular fees paid by all applicants therefor; that no fraud, misrepresentation or mistake in any material regard was employed by any one or occurred in order that such license should

be conferred. No person can register any authority to practice medicine unless issued or endorsed as a license by the regents of the university. A person practicing without lawful registration or in violation of the law, forfeits to the county $50 for each violation and for every day of unlawful practice. To practice under a false or assumed name or falsely personate another practitioner is a felony. The violation of this law or the buying or selling or fraudulently obtaining or practicing medicine under cover of a diploma or license illegally obtained or signed or issued unlawfully or under fraudulent representation or misstatement of fact in a material regard, or after conviction of a felony, attempting to practice medicine or appending M. D. to the name or assuming the title of doctor in such manner as to convey the impression that one is a legal practitioner of medicine, without having legally received the medical degree, is a misdemeanor, punishable with a fine of not less than $200 and six months' imprisonment for the first, and $500 fine with imprisonment for one year for a subsequent conviction. It will be seen that the law-making powers of New York have recognized the necessity for laws that would restrain those from offering to practice medicine in that State who were unable to furnish evidence of such educational qualifications and scientific skill as to justify the opinion that they were prepared to discharge the duties of a doctor in accord with the recognized theory of some of the established schools of medicine.

I wish now to examine the law regulating the practice of medicine in Texas, and contrast some of its features with the law in New York and Great Britain. The State Constitution says: "The legislature may pass laws prescribing the qualifications of practitioners of medicine, but no preference shall ever be given by law to any schools of medicine." The legislature has provided for the appointment of a board of medical examiners for each judicial district, who are appointed by the judge of the District Court of the district. These medical examining boards are composed of not less than three practicing physicians of known ability, graduates of some medical college recognized by the American Medical Association, and residents of the district from which they are appointed. These boards are required to meet semi-annually at some place in the district, after giving one month public notice of the time and place of meeting, to conduct examinations and grant certificates. The board is required to examine thoroughly all applicants for a certificate of qualification to practice medicine in any of its branches, whether furnished with medical diplomas or not, upon anatomy, physiology, pathological anatomy and pathology, surgery, obstetrics and chemistry, but no preference must be given to any school. When the board is satisfied as to the

cations of an applicant, they are required to grant a certificate, which entitles him to practice medicine in any county, when it has been recorded by the district clerk; any two members of the board may grant a certificate and any member may grant a temporary certificate upon examination which shall be in force until the next regular meeting of the board. The certificate must, before the person to whom it was granted is entitled to practice, be recorded in the office of the clerk of the District Court of the county in which such practitioner resides or sojourns.

If any person shall practice for pay, or as a regular practitioner of medicine in any of its branches or departments, or offer or attempt to practice medicine without first having obtained a certificate of professional qualification from some authorized board of medical examiners or without having a diploma from an actual medical college chartered by the legislature of the State or its authority in which the same is situated, he shall be punished by a fine of not less than $50 nor more than $500; each patient visited or each day's offer to practice constitutes a separate offense. If any person shall engage in the practice of medicine in any of its branches or departments for pay or as a registered practitioner without having first filed for record with the clerk of the District Court of the county in which he resides or sojourns a certificate from some authorized board of medical examiners or a diploma from some actual medical college, he shall be punished as prescribed in the previous article.

The board of medical examiners shall receive a fee of fifteen dollars whether a certificate is granted or not.

This is a brief summary of the law regulating the practice of medicine in Texas, and a critical examination is not necessary to show the defects that serve to make it far worse than useless, even absolutely hurtful to both the public and the medical profession of our State. That clause which admits to registration a diploma from some actual medical college without previous inquiry as to the validity of the diploma or the standing of the medical college from which it is obtained, has served to throw wide open the gateways of this State to every medical failure and medical fake of the Union that is driven from the other States by laws regulating the practice of medicine, and maintaining as one feature of the law a standard of proficiency, that guaranteed such a degree of medical education, skill and ability as should be had before being admitted to practice. It is a fact well known to the public that a diploma can be obtained from many so-called "actual medical colleges" as an article of commerce, by simply paying a nominal price and without even applying in person to the so-called institution. That numbers of such diplomas have been pur-

chased and registered in Texas by men now engaged in the practice of medicine in our State, is a fact equally well known, and serves as abundant proof of this fatal feature in our law. But if this evil were obliterated, the law would still be a failure, for the reason that it does not contemplate any given standard of proficiency, leaving that entirely in the hands of the different district medical examining boards, of which we have over forty in this State, whose membership is appointed by the judge of the District Court of the respective districts. While I would not be understood as reflecting on the integrity, intelligence or learning of our State judiciary, I will insist that the district judge is subject to the same influence of personal or political friendship or partisan prejudice that serves in many instances as a controlling power with the elective officer in other departments of the government in the distribution of their official appointments, without giving due regard to the official duty to be performed or the public interest to be served, and as a result of this we have now in this State medical examining boards whose chief purpose is, judging from their official actions, to get the fee or a part of the fee paid by the applicant for a license, without any regard whatever for the standard of proficiency which he may or may not have for registration as a qualified practitioner.

Our State has at a considerable expense established and equipped the Medical Department of our State University with every needful facility for a thorough course of instruction in the science of medicine in all of its departments, and secured a corps of able professors and instructors. The regents of the University in the beginning made an educational qualification one of the prerequisites to admission to the medical department, and they required an attendance on a full three years' course of graded study to be successfully pursued before graduation from the medical department. We were much pleased with this course and felt that it would soon have a most wholesome effect on the medical profession of our State, in elevating the standard of medical proficiency to a higher plane and placing it on a level with the standard sought in other States; later on the Regents of the University, keeping pace with advance made by other medical institutions of learning, adopted a four years' graded course to apply to students graduating after 1899, and this not only met the approval of the members of the profession, but gave, as we thought, additional promise of benefit to be derived by the profession and the people of Texas from the medical school in our midst standing in the front ranks of medical schools and furnishing to the sons of Texas a medical training that would make them easily the peers of the medical men of any country. But, alas, how our hopes are shattered by the combinations of evil legislation to-

gether with human avarice, and an utter disregard for a high standard of medical proficiency! In the very shadow of the medical department of the University of Texas, we have a District Medical Examining Board, composed of seven members, eminent in the profession in this State, and one of whom fills a professorship in the medical department of the University, who have so little regard for proficiency on the part of those whom they license to practice medicine as to grant license to first and second year men from our State school; so eager are they to thus accommodate the applicant for a license, that they have reduced the fee from fifteen to five dollars, and have a board meeting every Saturday evening. Can we reasonably expect success to crown our efforts to secure such legislation regulating the practice of medicine in Texas as will elevate the standard of medical proficiency required for legal registration to the standard required in other sections, to that high plane of professional attainment, that legal registration and recognition in Texas as a medical practitioner will be regarded as evidence of a fair degree of medical learning and skill, while men eminent in the profession, men holding membership in this Association and even filling positions of distinction and honor in the medical department of our State University, treat with such unblushing infidelity the repeated demands of this Association for a higher standard of medical proficiency in Texas. As we have seen, the course of study required in New York before being permitted to apply for a license to practice medicine covered a period of three years and required attendance on three full courses of lectures in three separate academic years: this is the rule to-day with the leading medical schools for graduation; some of the more advanced schools require a full four years' course, as our own medical school proposes to do for students graduating after 1899, but our District Medical Examining Boards, with full legal authority to grant license, do not hesitate to furnish a certificate for registration after one or two terms spent in school. Such conduct on the part of members of this Association deserves a rebuke in no uncertain tones, and until we learn to live up to our professions of a devotion to medical advances, we cannot reasonably expect any very marked advance in the standard of medical proficiency in our State. It is not my intention to convey the idea that the District Medical Examining Board at Galveston is an exception to the rules in this State in granting license to practice medicine to those whose degree of proficiency is insufficient to meet the requirements of that high standard demanded by law in other sections and such as the better element of the profession in this State are striving to obtain for the common good of an intelligent people well worthy of the best medical service.

For a contrast between the sections, as it applies to the legally qualified medical practitioner in Texas under the present status, I would say, in answer to the questions with which we started, i. e., "who is the doctor, what prerequisite qualifications should one have before he is recognized by you as a doctor?" that the doctor belongs to the genus homo and is of unknown origin; it is sometimes a question of doubt as to whether he has any origin, unless you accord to him the questionable distinction of being himself the original, a case, simple and pure, of accident or happened so; mentally and morally he is of doubtful quantity and quality, and should not be recognized by you, but regarded rather with an eye of suspicion till by correct habits and an honorable, manly deportment in his daily life, together with an exhibition in his field of work of that degree of proficiency that merits your approval, when recognition may be extended him. But in answer to the questions, as they apply to civilized sections beyond the limits of Texas and enjoying the benefits of modern progress and culture, I would say the doctor there too belongs to the genus homo, he is of mature age and has a good moral character, that he has a liberal literary education, and has given a sufficient time to the study of medicine in all of its departments to secure from a recognized medical school in good standing the degree of M. D., all of which has been established by competent testimony to the entire satisfaction of the law. He is sufficiently conversant with the principles of hygiene and sanitation to advise correctly on public questions effecting the general health, and has such a knowledge of anatomy, physiology, chemistry, therapeutics, materia medica, pathology, pathological anatomy, surgery, obstetrics and practice, together with that clinical training that can be had only in personal observation, as to inspire the opinion that he is competent by reason of adequate training, skill and ability to discharge all the duties of a doctor with ordinary or average skill and ability.

When this requirement becomes general and the vast horde of incompetents die off, the medical profession will be recognized in its true light as the noblest, the grandest of the learned professions, and its members as the true representatives of the noblest science that has blessed mankind since the dawn of civilization, and whose work will continue to command admiration even in the twilight of eternity.

Dr. A. W. Fly, of Galveston, then took the floor, and made the following remarks:

Mr. President and Gentlemen:

I arise not to state any grievance, but merely to correct what I believe to be an erroneous impression upon the mind of our honored ex-

president. In his address last evening he made what might be termed some strictures upon the District Medical Examining Board of Galveston. The Galveston board is composed of general practitioners, and, I believe, the youngest member of the board has been in practice about fifteen years. One member of the board is a professor in the medical department of the University of Texas. Now, in order to fully explain the situation it might be well for me to state that every member of this board now acting was appointed something over three years ago by the same district judge, and the law was so defective, in their opinion, that, after organizing, they adjourned sine die and did not examine any applicants for the practice of medicine. When the last legislature so amended the law as to give it some vitality, the same judge reappointed the same board. That board was organized; they adopted the established custom of charging fifteen dollars for examination of each applicant. A large proportion of their applicants were students of the Medical University at Galveston, second course men. Many of these students said they were anxious to have the opportunity to practice during the summer, and try to make a little money so as to come back and complete their courses, but they were unable to pay the fee of $15, and, probably you gentlemen know that to the average medical student a $10 bill is as big as chicken to the missionary in foreign lands,—you can hardly estimate the size of it. These boys petitioned the board to allow them a reduction in examining fees, and I was the one who advocated abolition of the fees and to examine the applicants and pass them upon their merits, because I have always believed and continue to believe that in this world the question of merit should decide as to whether or not a man is qualified to fill any position. I also suggested to the students that if the professor of anatomy would give a certificate that the student had passed satisfactorily examinations up to that date, I would accept that in lieu of an examination. At first the professors declined to so do, and, not having forgotten the little minutiæ I learned when a student, I put the gentlemen through the sprouts, and found, in every instance except one, that these gentlemen were thoroughly up upon general anatomy, and I concluded that if that was a sample of anatomical teaching going on in the State Medical University that I could afford to give these gentlemen my support for a temporary certificate to practice medicine, based upon the certificate of qualification from the professor who had been teaching it. And, so far as the fee was concerned, there was no disposition on earth to cut the fee to push business. But, it was done with a view to encourage those young men who had already been studying medicine for two years, and who had shown evidence of qualifications in their respective branches; and I doubt

very seriously if any members of any association would surpass if they were put to a critical test. Practitioners who have been in practice a long time do not remember, usually, the exact minute anatomy of the body. I make this statement more in justice to the students than the board, because there is only one gentleman connected with the University on the board, and he occupies the chair of therapeutics. But, we don't want the impression to go out that Galveston Board is a dumping ground for effete material who want to practice in Texas, or any other place. But, we also want it understood that a man who has been studying medicine ten or fourteen months, can pass an examination on the minute anatomy of the liver, brain and heart. I am perfectly willing to stand by the fact that he has my name to his certificate to practice medicine in the State of Texas. Another point I want to raise. While the law has been very imperfect, the one that was enacted two years ago is much better than had ever existed prior to that time, because the man who gets a certificate from any board now has a standing in court.

DR WEST: There is one thing that Dr. Fly failed to bring out in his explanation of the action of the examining board of the Galveston district. The object of that board was, as I understand it, in view of the passage of the medical bill now before the legislature involving the appointment of a State Examining Board, of allowing, not only the students of the University of Texas, but the medical practitioners in Galveston and that district, to legally qualify themselves before the enactment of the bill now pending—this was the primary object in reducing the fees and in their admitting these gentlemen to examination. A number of physicians, in addition to the students, embraced that opportunity and stood the examination in order to make themselves legally qualified to practice. So far as the relation of one of the examiners to the University of Texas, I will say that is a matter with which the faculty had nothing to do. We have never approved the policy of our students going before any board or entering the practice of medicine except by diploma from the school. Dr Randall took this action of his own accord.

DR. LOGGINS: If I had any occasion to have offered a response to the remarks made by my distinguished friend, Dr. Fly, I take it that they have been abundantly made in the remarks of Dr. West, that the faculty don't approve of their students going before an examining board previous to their regular examination and graduation. That was the point I sought to make, that the term required for graduation should be a term required for examination. Now, so far as my remarks last night having been construed by anyone as attacking the Galveston school, I take it that it is unnecessary for me to say to the

Texas State Medical Association or to the gentlemen here connected with that school that such was not my intention. They know full well my confidence in it. My son is one of their students. I could not give them a greater evidence of my confidence in the school and its faculty. It was not my intention to charge any of the faculty for the action of that board in Galveston. But I want to say that every statement made is abundantly susceptible of proof, and that they have been granting certificates there to one or two year students, which makes it a question whether those students shall be granted that standing in law that we propose to have for the medical practitioner of Texas. In so far as Dr. Fly is concerned, I want to say he has fortunately some ground for justification; because we know that second-year students pass in anatomy so that a third-year student is not required to pass in their examination in anatomy. They might pass Dr. Fly, and do it justly, but are they able to pass on the practice of medicine, surgery, obstetrics and other branches which are completed by the end of three years, and is it justice to the profession of this great State for that board to be granting certificates to men who have only been two years students.

The synopsis of the minutes, as kept by the stenographer, was approved, and the convention then adjourned to meet at Houston on the last Tuesday in April, 1898.

Approved.

BACON SAUNDERS, M. D., President.

H. A. WEST, M. D., Secretary.

PAPERS

READ BEFORE THE

TWENTY-NINTH ANNUAL MEETING

OF

The Texas State Medical Association,

HELD AT

PARIS, TEXAS,

April 27th, 28th, 29th, and 30th, 1897.

SECTION ON GENERAL MEDICINE.

SOME UNUSUAL SYMPTOMS OF COCAINE POISONING.

T. W. CONERLY, M. D.,
SAN ANGELO, TEXAS.

The subject of this article, Mr. W., was one of the most prominent persons in the section of country in which he lived. He was about thirty-seven year olds; of fine appearance; robust physique; weighed 200 pounds; of English birth and education. He had been in America eight years; had lived in San Angelo several years; he was married to an estimable lady in this State a few years ago, who survives him. He had used alcoholic drinks almost daily for three or four years; had once attempted suicide with morphine, and in his most sober moments would sometimes argue in justification of suicide; hence it is believed that the case here reported is one of suicide.

On the fifteenth day of October, 1895, at about 8:30 o'clock p. m., I was summoned in great haste to see him. I found the man in an extremely violent condition, trying to get away and leave the house, four or five men being required to restrain him. He was a perfectly wild maniac, and had been in this condition some thirty or forty minutes. I found his pulse bounding and heart beating rapidly and with great force; almost immediately he began to relax, and was placed on a couch in the room. At this juncture I was shown a half ounce vial that had been taken from his pocket; the bottle was half filled with a clear fluid, and was labelled cocaine. Strychnia and atropia were used as quickly as possible, with a hope of holding up the respiration and bridging over the impending crisis, but with no effect. The respiration became slower, the heart beat somewhat weaker; in

twenty minutes the breathing had ceased. The heart continued to beat for several seconds longer. Mr. W. had left his place of business about dusk, his usual time of going home. He got into his buggy and drove down the street one block; got out, tied his horse and started in a stooping position, running diagonally across the street. He was stopped by a friend and asked where he was going; he replied that he was going home. He was told that he was wrong, was taken to his buggy and started down a cross street towards his residence, five blocks away. After going a part of the way he stopped at the house of a friend; left his horse and buggy standing in the street; ran into the house looking like a wild man. The lady of the house and also a hired man who was in one of the rooms, got out of his way as he endeavored to catch first one of them and then the other, until he had overturned and broken a large part of the furniture in the different rooms. Finally, some neighbors were attracted. They gathered and endeavored to restrain him. He was held by main strength, put into a carriage and taken home, where he lived but a few minutes, as above stated. Investigation at the drug store where the bottle was filled, showed that it contained a four per cent. solution of cocaine. I have not seen a report of just such violent symptoms displayed carrying with it the rapid cardiac action; such recent authors as I have had the opportunity of examining, as well as our text-books, describe a slow heart action from large doses of cocaine.

HOTCHPOTCH.

J. H. SEARS, M. D.,

WACO, TEXAS.

Mr. President and Fellows of the Medical Profession:

It is my pleasure to treat you to a dish of hotchpotch, a delightful hash compounded of rare bits of an ancient breakfast, from materia medica, pharmacy and therapy; some scraps from a wholesome dinner, of practice, physiology and pathology, and some juicy bits from supper, bacteriology, flavored with antitoxin and germs.

Hoping that you will relish and digest it with as much avidity as our faithful phagocytes attack the contents of Laveran's plasmodium when they rupture in our blood current, to prevent their despoiling that stream, or propagating their kind; and I begin by asking a few questions.

What's the matter with cinchona, that so many of our physicians of the present day are ignoring or tabooing its use, prejudicing the popular mind against it and offering nothing adequate in its place? Or what is the matter with our doctors losing confidence in the only specific for paludal diseases vouchsafed to mankind in two and one-half centuries? In all of this long time, pharmacy has been unable, with all of its scientific astuteness and ingenuity, to offer anything like an adequate substitute; it still stands unscathed by all of its would-be maligners, *the God-given boon for our afflicted race.*

Dr. Osler, in an address before the American Medical Association at Atlanta, Georgia, last year, says: "It is worthy of comment that three of the greatest benefits conferred on mankind, besides which it would be hard to find three of equal importance, have been in connection with fevers: The introduction of cinchona, the discovery of vaccination, and the announcement of the principles of asepsis. Too great a boon for a

single era, these priceless gifts have been distributed over three centuries. They represent the great practical application of our art, in three departments; cinchona bark in therapeutics, vaccination in preventive medicine, and ascepticism in surgery. Each of these diseases thus attacked in its stronghold may be taken as a type of a great group of fevers, the miasmatic, contagious, eruptive and the septic."

He says further: "I have spoken of the discovery of cinchona as one of the three greatest benefits conferred upon mankind in relation to the fevers, an event fraught with more memorable consequences than any, perhaps, in the history of medicine. It has made waste places habitable, the wilderness to blossom like the rose, and has been one of the greatest factors in the expansion of European civilization. And after two and one-half centuries cinchona remains the only specific drug, which we have in fevers, to the action of which the pharmacopeia offers no parallel."

With such evidence as the above, with the unanimous concensus of medical opinion of the past ages; what place shall we assign medical gentlemen of the present day who deny and ignore the value of cinchona, and claim to have found substitutes which are much better and safer? I delay a moment to give you a sample. Dr. W. T. Strother, of California, says: "Ten or twelve years ago I thought nothing would take the place of quinine in intermittent and remittent fevers, the profession had come to regard it as specific; my experience in regard to the treatment of these disorders within the last year convinces me that it is almost useless in most cases of remittent fever, and its effects are very uncertain in some cases of the intermittent. The treatment with which I have had the best success here, is virtually that of Dr. Brodnax, of Louisiana, which is to open the bowels with small doses of calomel; then one or two hours before the expected chill, give ten grains of acetanilid in twenty drops of warm glycerine, and at once put the patient on ten drop doses of a solution of sulphate of iron and nitro-muriatic acid, three times a day after meals, in half a glass

of water, continue this for a month, giving a dose of acetanilid on the 6th, 7th, 11th, 14th, 15th, 21st, 27th and 28th."

Suppose he had used cinchona as faithfully? Would he not have had much better success? What shall we say of such a statement, of such an abandonment of the known for an unknown, a tried for an untried remedy? Have you never heard of remittent and [intermittent fevers recovering without treatment? or on shuck tea or a few grains of salt, or mullen extract, etc.? Would such knowledge justify us in hazarding a precious life on such folly? Should we not be indicted for murder in the first degree, for such reckless tampering with human life? Away with such trifling; always give the best known remedy for every case prescribed for, and live and die with a clean conscience without a murderous ghost clinging to your soul. "Bear with me a little" while I further detail the wonderfu. and excellent powers of cinchona, for it has been for two and one-half centuries "the philosopher's stone of therapeutics," and yet, we have not fully comprehended its priceless virtues. As the Queen of Sheba said to Solomon, "the half has never been told."

We know that it is capable of snatching a precious life from the icy arms of our greatest enemy, DEATH; when he seems half out at the door, he lays the victim gently down, and gracefully retires for a future chance. This happens often in pernicious and malignant fevers. We know that it arrests intermittent and remittent, and continued malarial fevers, and restores the patient to health. But why and how does such a wonderful result follow its timely and proper exhibition? Does it neutralize or destroy the poison, or re-enforce the vital resistance, enabling nature to reassert her authority?

Trousseau's Therapeutics, page 159, says: "No remedy makes more potent appeals to nature than cinchona, so true is it that it acts only through nature that the very properties which are attributed to it are those which characterize the regular action of the system; properties which are transferred to cinchona by figure of speech which specialists alone take as literal. To in-

crease the health force, and lessen the morbid, is the general property of cinchona. Its tonic property or the faculty it has of increasing the common vital forces, is proved by its sedative, moderative and regulative virtues, relative to the special manifestations of this force. Nevertheless, in certain circumstances, the organic forces are affected by pernicious influences which more and more subdue their power of resistance. To these pernicious influences cinchona offers an opposition; does it neutralize the paludal miasms of itself directly and chemically? Not in the least. First the paludal miasms once absorbed and at work, are no longer foreign bodies, they live in the sick organism, and the infection, the attack of fever or any other of its manifestations, is itself nothing but accidental and abnormal life. Finally the organism includes all the faculties which are to be developed in it by cinchona, it only needing food for them. Under this appropriate influence, it by itself will draw its properties from the salutary bark, but not without conceiving them and impressing upon them an activity of a superior order; for in order to act they must be living. The heroic element, then, will not be pharmaceutic cinchona, but cinchona vivified, or the organism fecundated by cinchona by its powers of vital resistance and unity. Is there a remedy less specific, in the empiric sense of the word? Is there one which acts more conformably to the principals of the Hypocratic vitalism? I do not think there is."

I am not prepared to adopt or reject the above position of Trousseau. We know from microscopic examinations of the blood that the hematozoa rapidly disappear after the exhibition of quinine, but whether they are thrown off as debris, or restored to healthy corpuscles, I am not prepared to say; one thing we do know, that cinchona must act as a wonderful and efficient reconstituent, or a reconstructor of the vital forces. When we see a victim rescued from most imminent peril as if by magic, need we wonder that such a remedy has been called divine. I will not weary you with a description of the various types of malarial fevers, nor need I detail their proper treat-

ment, as you know all about that, or at least ought to know; need I tell you how the malarial hematozoa are supposed to enter the system through the air we breathe, the water we drink, the fruit, vegetables and food we eat; yet none of the plasmodia have ever been found in the air, water, food or fruits, in marshy regions or elsewhere; except in the blood only have they been found; they have never been cultivated.

Dr. P. Mason, in the London *Lancet*, gives us his mosquito theory. He says, "That there are many eogent reasons for believing that the plasmodium malariæ, on leaving the man and as a normal step in its life history, becomes parasitic in the mosquito." Dr. George M. Sternberg thinks "there is much more truth than poetry in Dr. Mason's mosquito theory. He believes it is diffused by air currents as well as by water." I will not bore you here with my opinion of microbes or parasites in general; I will say in passing, however, that they spread over too wide a field, occupy too many odd positions to attribute to them any particular parasitic disease whatever, as its only etiological factor. I think that the host originates the disease that affects the microbes, and when the microbes get sick or affected by the host, then their functions, as scavengers, are interrupted or arrested, they fall sick and die, and their carcasses become a new or added source of infection and trouble.

I know that many of you are ready to ask me how I explain the action of antitoxin in diphtheria; I don't know that any one has yet done so. My friend, Dr. J. W. McLaughlin, of Austin, has attempted it in a recent address before the Austin Medical Society. His is an excellent paper, and from his standpoint, is a very fair explanation; but as the diphtheria antitoxin is the only one that has met with the expectations of the bacteriologists, and truly the reports of its success are magical and deserving of the highest commendation. Yet when we remember that the antitoxin that has these wonderful effects, is the serum obtained from a sick horse, and that the serum obtained from a convalescent of typhoid fever has the effect of destroying the typhoid bacilli, and afford protection against their ill effects,

without a trace of antitoxin properties, we must conclude that we neither know the why nor the wherefore.

We therefore conclude that there is yet remaining a very great space in this microbic and antitoxin field yet unexplored, still shrouded in darkness and mystery, as dark as the Egyptian night of old. I think that the whole microbic and antitoxin theory will have to be reconstructed or in a few years abandoned.

In a French journal for January 10, 1897, Dr. A. File "announces that leucocytosis is always associated with diphtheria infection, its intensity proportionate to the severity of the infection." He has also shown that the injection of antitoxin produced hypoleucocytosis in half an hour, followed by hyperleucocytisis at its highest point five to six hours after the injection, and decreasing in twenty-four hours following, without reaching the point it had attained before the injection.

The number of leucocytes is probably not an indifferent factor in the production of immunity. Dr. Wesley G. Bailey in the *Journal* for April, reports success in the treatment of diphtheria and other infectious diseases equal to that of antitoxin, and much safer, by the use of protonuclein, which increases the leucocytes.

If the above is true, it appears that infectious diseases, such as diphtheria, etc., are cured by inducing hyperleucocytosis; any remedy, therefore, that would induce such condition, ought to be of service, such as turpentine, pilocarpin, carbolic acid, etc., This is as near an explanation of the action of antitoxin as is at present attainable.

GERM THEORY.

"The first statement is delightfully simple. Every disease is due to a specific microbe. No microbe no disease;" but exceptions keep cropping out in both directions; many cases in which microbes are found and no disease, and many diseases in which no microbes are found, to account for it; so that our bacteriologists have come reluctantly to recognize, that not the presence

of the germ, but some peculiar virulent condition of it, causes the malady; in other words, the diseased condition is transferred from the patient to the germ, and it is now our business to find out what is the matter with the latter. Probably the first thing that set the current of thought seriously in this direction, was Roux and Yersin's discovery of the diphtheria bacillus in a large number of normal throats, and in a part of the country where diphtheria had not been epidemic for years. They also found typhoid and cholera bacilli in waters all over the world. Now, we have Roux, Yersin, Duclaux, Pasteur's successor, and others trying to differentiate the benign innocent, from malign or criminal families of germs. You see at once what a pickle our bacteriologists have gotten into. I think that these enthusiastic advocates of serum-therapy like rats on a sinking ship, are ready to float over to the next fad that comes along.

I am far from believing that these industrious investigators of serum-therapy have labored in vain; they have contributed or conferred a great benefit on mankind, for they will have convinced us that we cannot depend upon the blood serum of the horse or any other animal or man; but will have to rely on our own for protection and immunity. We will have to observe hygienic laws, and observe them strictly, keep all our physiological functions healthy and in working order to secure immunity and rapid recovery from disease.

In a paper read by Dr. James B. Herrick, before the Chicago Patheological Society, March 9, 1896, reporting two cases of pernicious malarial fever with relapse; during the discussion, Dr. Sanger Brown asked Dr. Herrick if he, in looking up the subject, had found that the plasmodium is discovered in patients not subject to malaria, or who have none of the positive symptoms of the disease; also whether the comparative number of plasmodia found in the blood examined bears any constant relation to the severity of the malarial symptoms, assuming that the cases which he had cited were due to the malaria. In answer to [illegible] question, Dr. Herrick says: "I think that it is almost a [illegible] in terms to say that plasmodium can be in the

blood without malaria; a patient may have plasmodia in his blood and yet be free from symptoms; the question of latency of malaria is one that is by no means clearly understood." In answer to the second question he says, "that it may be possibly true with regard to the tertian infection, but with reference to the aestivo-autumnal type there is not that relation. The visceral blood, for instance, will contain multitude of plasmodia, while the peripheral blood may be examined repeatedly and the plasmodia will be absent. In the county hospital case that I reported, an unusually grave one, there is no question with regard to the diagnosis, yet in the blood on four slides, only one plasmodium was found after careful examination."

I have quoted this much from Dr. Herrick's paper to show the bright prospects of diagnosing a case of remittent or continued type of malarial fever by examination of the blood for plasmodia; it will be seen at once that no reliance can be placed in such examination. Besides there is a very grave doubt whether these hematizoa in the blood exercise any etieological factor whatever in causing malarial fevers. While their presence may indicate such a condition, they cannot be accused of being the cause. If you contend that they are a cause, then you must explain how it is that so many thousands escape while constantly exposed to malarial influences, with their blood tissue probably teeming with the hematizoa. Have they ever been cultivated? Have they ever been found in any other disease than malarial? Are they morphologically and histologically always the same, or are there several varieties produced by the same cause? We know that in certain localities under certain conditions we have black jaundice, in which the blood tissue is broken down and the hematin spilled out in the serum, causing bronzed or jaundiced skin, hemorrhage from the kidneys, black vomit, etc. In all these cases are the hematizoa the same, or are there other factors that play an important part? Some contend that the hematizoa are never found in the blood until after the chill; this I cannot believe without further and better evidence, for if this be true, then the chill induces the plasmodia. While I admit their pres-

ence, they are not the cause. It has been my experience, and I suppose it is the same with every observant physician, that imprudence in diet, exposure, heat, cold, fatigue and mental weary, etc., precipitate one into a chill and fever; the type is said to be due to the morphological difference of the hematizoa.

I think probably that it is determined by the individual peculiarities or by the individualism of the victim; the malarial poison acts so rapidly in some cases that it could hardly be attributed to the rapid propagation of parasites. Reynold's Practice, page 365, relates the case of three German missionaries, who were compelled to camp one night at Sagoor Pass, an unhealthy spot at the foot of Neilgherry hills. These gentlemen were fresh from Europe and in high health; on the following morning they pursued their journey, and were soon above fever range; in less than twenty-four hours three out of the four of the party were stricken down with the fever, and two of them died in a few days. From a week or ten days to a fortnight most commonly is the period of incubation. There is much in paludal fevers which the plasmodia theory does not account for; it was thought at one time that an enlargement of the spleen caused chills and fevers; now the reverse. It will be taught that malaria causes enlarged spleen; and that enlarged spleen produced plasmodia, which I think will be nearer the truth. I firmly believe that heat, together with the miasmatic emanations, will be found the chief etiological factor in malarial diseases; and that the hotter the climate, the greater will be the continuous type or prolonged fever. I think there will be found pigment, dark granules, molten corpuscles, in the blood of continued malarial fever in the internal viscera, but never a full grown plasmodium malaria; therefore it would be time wasted to look for them in a prolonged malarial attack of fever; we may have, in time, to give up the idea of malaria in these fevers, and fall back on our friend, Dr. Cox's climatic or irritative fever or the common continuous form of the fathers. Dr. Guiteras calls it continued thermic fever. Dr. R. S. Woodson reports two cases at Jackson's Barracks, precipitated by a game of baseball

in the hot sun, which he calls thermogenetic or thermotaxic or thermolytic fever. Assistant Surgeon McCulloch's report mentions a continued type of Southern Texas fever, which he says is not typhoid, because of the absence of pathological lesions of that fever, and it is not malarial, because there was no plasmodia found in the blood.

These continued fevers of the South are doffed with a great variety of names, comporting with the idea of the physician making the report.

That we have fevers throughout the South and tropical regions of a continuous type, that are not typhoid can be shown without a shadow of doubt. Then the question arises, are they malarial? That continued fevers may be produced without either typhoid or malarial elements in their composition I see no reason to deny, excluding the infectious, eruptive, catarrhal, irritative, etc. Still there are some cases we may not be able properly to classify, but that the bulk of our continued fevers in the South are malarial, and are amenable to cinchona properly exhibited, I have no doubt whatever; and that the large majority of cases seen in time and properly and promptly treated with quinine, from thirty to sixty grains a day, continued from seven to thirty or more days if necessary, will surely recover. This has been my experience for thirty or forty years, and no amount of argument or fine spun theories would or could convince me to the contrary. If I seem to boast or rejoice in such a position, it is not from any selfish feeling, but because so many of my fellows have been benefitted and still live to testify to the correctness of my faith.

My professional brethren will bear me witness that in all of these years I have neither backslidden in faith or practice, and that I have ever taught them, by precept and example, the principles I profess, whether they have profitted by them or not, they cannot deny the lesson and the persistent instruction. While my conscience approves and my practice continues a success, I shall remain faithful to the end.

Following the above, Dr. Sears read another paper, in which he strongly advocated the extensive prevalence of a continued form of malarial fever in Texas, which in spite of a duration of three to four weeks, he claims is curable by the salts of cinchona.

DR. H. A. WEST. I have been very much interested in the papers of Dr. Sears. In my opinion, there is no subject of greater importance to medical practitioners in Texas than the correct classification of the fevers prevalent within our borders. I have so frequently elaborated my views upon this subject that it is hardly necessary now for me to repeat my absolute and unqualified dissent to many of the propositions maintained by Dr. Sears. According to my belief, Laveran's discovery of the malarial parasite seventeen years ago, was one of the greatest of the century; it marks an epoch in our knowledge of the etiology and pathology of one of the severest scourges to which humanity is heir, and will immortalize the man who made it. Laveran's observations have been confirmed by a host of competent observers in every part of the world where malarial diseases are found. Disbelief now is retrogression of half a century, and mental blindness to facts which have received universal recognition. It is a useless task to exhume Trousseau's or any other obsolete theory as to the action of the cinchona salts in the cure of malaria, for now we know they are parasiticides. I agree perfectly with the doctor as to the supreme value of quinine in the treatment of paludal diseases, and the uselessness of resorting to any inferior agents; but I go further, for I question the diagnosis of any case of fever claimed to be malarial which resists the action of quinine when this remedy is introduced into the blood in sufficient doses. Typhoid fever I know, and malarial fever I know, but of a type of "continued malarial fever," which Dr. Sears claims to *cure* with quinine in from three to six weeks, I know nothing. Occasionally I have seen cases of the aestivo-autumnal form, proven to be such by the presence of the parasites in the blood which resist the action of cinchona, but these rare exceptions only prove the rule, for such resistance can generally be explained by visceral complications, chronicity and imperfect treatment. The enormous doses of quinine used by Dr. Sears in these cases is, in my opinion, absolutely harmful; the patien trecovers, not by reason of, but in spite of the remedy.

DR. RED.—I would like to ask Dr. Sears if I understood him as saying that he gives thirty grains of quinine for thirty consecutive days?

DR. SEARS:

I will answer that in my reply to the other doctors. As Dr. West has stated, this is our battle ground, and I think I have the better of it now, while he thinks he has the better of me. Now, with what show of confidence can you claim that the plasmodium malaria is a parasite at all? It has never been found in the water we drink; it has never been found it the air we breathe, nor in any fruits that we eat. They have never been found anywhere but in the human blood. I take the position, and take it in the paper, that the plasmodium is the product of the spleen; that has become crippled by malaria. We use this term "malaria" or "bad air" on account of our ignorance. We don't know exactly what it is—never have been able to find out microscopically or otherwise. It is one of those mysteries that floats through the air, in the water we drink, or anything of that kind, but it is not in that shape. If you say that the water is full of malaria you cannot find a plasmodium in it.

Sternberg believes that Mason has found how plasmodium is propagated in the mosquito. He goes on and tells how Mason had really discovered more than he knew; that Mason had not really found out what the mosquito did do; that it would be left to some other gentleman; and that Sternberg was working out this mosquito theory. Now, if the spleen has anything to do with the supplying of the corpuscles, and it becomes crippled in its functions, and from its crippled condition by the malarial impression upon it, it is very readily seen that it throws into the circulation imperfect blood corpuscles. First a little speck is seen, and then it consumes the contents of the red corpuscles and without being absorbed until it breaks and discharges its contents into the circulation, and if we are in a healthy condition, our phagocytes eat them up so we have no chill. But the scientific investigations of the Johns Hopkins Hospital in Baltimore, claim to have discovered the different development of these miscrobes that produce the different fevers, and that the fever comes on when they burst, and discharge their contents into the circulation. Since these parasites cannot be cultivated, yet are never found anywhere else, is it reasonable to suppose that they come from a crippled spleen and absorb the fluid of the blood until they burst with dropsy? That's the way they get open. I try to show that if they were the cause and multiplied in the circulation, none of us would be saved, because, if we had them in there they would double so rapidly as to kill us off, as I showed in the case of those three gentlemen who camped at Seago Hill. When they went there they were in perfect health, and on the second day they were taken down with a pernicious chill and two of them died. They

camped only one night at the foot of the hill. Do you suppose those plasmodiums could have multiplied sufficiently rapid to have done that? It must have been something else. Mr. M. Brown, in treating the continued type of fever in the South Atlantic States, has run across fevers very much like typhoid: that the line is so nearly parallel that it is almost impossible to determine unless it was by the chilly sensation of evening and the gradual approach of the fever, and continues for several days with the evening temperature of about 99½° or 100, and in the morning almost normal—just a little headache and indisposition. It comes on in that way, with these chilly sensations in the evening, cold hands and feet. Well, if it is permitted to go on the fever continues to increase day by day until, presently, the fever reaches in the morning a temperature of 101° or 102°. If you let it go on and don't treat it, at the second week the fever becomes more identified with the human body. It is not so loosely bound in the system as it was before; the fever and circulation increase and the circulation comes up to 120 or 130, and the temperature reads in the evening 103° or 104°, and in the morning down to 101°. Let this continue for a week without any treatment at all, and it assumes an adynamic stage in which the patient's temperature fluctuates so much that it runs up to 105° in the evening, and in the morning to 102°, and the patient becomes delirious all the time; his appetite giving away. If you let it run on to that adynamic stage, then a great many of our physicians say, "This is typhoid fever." Now I will show you about the quinine: If you give that patient at the outset twenty grains of quinine divided in three parts and let him take one three times a day and continue it straight along it will maintain that patient in a pleasant condition without any adynamia, but a comfortable feeling all the way through, and the fever will end in three weeks. If we give thirty grains of quinine divided into three parts, one part given three times a day, it will end in two weeks. He is perfectly safe, and no patient will die with continued malarial fever until he reaches the adynamic stage. I have never seen one die. In fact, before we got artesian water in Waco I treated about one hundred cases every year, and as I stated before, I never saw a patient die who could take quinine. Now I say that that amount of quinine will maintain that patient in a comfortable condition, and he will recover in three weeks. If you give him thirty grains, ten grains three times a day, straight along, it won't interfere with his mental faculties, and he will recover in two weeks; but you must persist in the quinine three times a day. If you leave it off a single day the fever creeps up. You cannot leave it off until he is actually well. You must be as persistent as the fever itself, with the quinine. Don't you quit it at any time. A great

many of my younger friends give it for a week, and then quit and say the quinine is not doing any good. That's all an error. Quinine will cure it as certainly as you give it—but you must persist as long as the fever persists. If it was a whole year I would give it a whole year, and keep my patient in a comfortable condition until he is well. And, my freinds, don't quit him until he is well. That's the reason we have so much typhoid fever—they don't know how to treat the malarial fever. Don't you know Dr. Bobo wrote from Venezuela, wherein he said that malarial fever was the prevailing fever in their country; that they lasted three or four months, and had fluctuations that were wonderful, and that they got into the adynamic stage. Now, when a person gets into the adynamic stage there is no possible way for him to recover, unless you get him out of it by food. I see the difficulty, and I say that it is, that the physicians of the State of Texas give quinine ten days and then quit it, because they think the quinine don't benefit them. The doctor quits the quinine, and by the next week his patient is in the adynamic condition and cannot sleep. As sure as I am standing before you, if you will give the quinine persistently until there is no fever, the patient will recover in two or three weeks. So, if you want to make a long bill you can give him lesser doses; but the treatment is just as safe as that the sun shines. Not a single one will ever die until he gets into the adynamic stage. I stand before you today and say I have never seen one die; and this upon my practice of forty years. And I declared upon the floor before our local Association that no patient dies who takes quinine: and it was several years before I had to qualify that position.

Now, I am not afraid to give quinine. Sometimes I give a case forty grains a day, every day for a whole week, and frequently break it up by the seventh day; and if he is a stout fellow, give sixty grains a day. If I don't succeed in breaking it up by that time I go back to forty grains, with perfect confidence that he will recover in two or three weeks. But twenty grains will maintain a comfortable condition, keep his mental faculties in a perfect state, and he will eat pretty well. He gets well in three weeks on thirty grain a day: two weeks on forty grains; and sixty grains sometimes in one week. (Applause).

I don't care whether these plasmodia are defective blood corpuscles or not, I don't believe one will ever be found in the fever in the peripheral blood. They are sometimes found in the bilious fevers. You all understand what they call autumnal fevers. Well, they start here about the first of June and go on until October, or until the cold weather comes. Now, a pretty thing about these plasmodia is that at the very first cold blast they all disappear, go into winter quarters. They never make their appearance again until June. Ain't they wonderful creatures to un-

derstand the cold weather? You don't hear a thing more of them nntil the next spring; and the next spring, when the sun shines out warm and a fellow exposes himself or eats a little too much, or plays baseball, or over-exercises himself riding a bicycle, he takes a case of malarial chill. I suppose they sit over there waiting for the sun to shine. The blood is about the same temperature all the way through, winter or summer, and they don't multiply at all. or the phagocites eat them all up. I think if we are always healthy that the phagocites eat them up or keep them from muddying the blood stream. Just keep up your quinine and don't purge your patient to death—just give him enemas and open his bowels; they are disposed to be constipated in malaria. They don't swell out like typhoid fever and look like a dead cow's, but are generally constipated, although I have seen a few cases of diarrhœa, but never that ochre-colored diarrhœa that you see in typhoid fever. The tongue is always broad and heavily coated, and looks like an earth worm bordered it. Not contracted, like you see in typhoid fever—never cracks open if you treat the patient with quinine. Give them plenty of quinine and feed your patients, and as sure as I stand here every one will get well. Don't wait to see whether it is typhoid fever or not, but just go on with the quinine and don't be afraid of it—there is no harm in it.

I believe that is all I want to say. I am not going to discuss this microbe theory with Dr. West, because we are very well satisfied in our positions. I have a paper in my pocket I wrote on malarial fever, but I don't mean to read it here. I have given you the gist of it. I do not know how long this fever has been known throughout the world. It was never recognized until about 1812, and then the profession combatted it, like my friend West does the typhoid fever; and they never found out any better until they got Algeria, and there the tertian and quartan are merged into the continued—which quinine cured.

DR. H. A. WEST: We are not allowed to discuss a question a second time, and I will not ask permission to do so now. But the subject is of such practical and paramount importance, and my views are so antagonistic to those of Dr. Sears, that I trust you will allow me a few moments more. When the doctor mentions incidentally that he treated hundreds of cases of continued malarial fever in Waco before the supply of artesian water was obtained, we infer that there has been an enormous reduction in the number of such cases, consequent upon a pure water supply. Here is the key-note of the situation. Dr. Sears' cases of co-called continued malarial fever are in reality typhoid. This we know is a water-borne disease, but if the cause of the paludal fever is conveyed by drinking water to the extent as mentioned by the doctor, the fact has not heretofore been demon-

strated. I do not wish to be understood as saying that typhoid fever, as observed in the interior of Texas and other Southern States, may not be modified by climatic, seasonal, and possibly malarial influences, but will repeat what I have said before, that both typhoid and malarial fevers, as I see them on the Gulf coast, are attended by the same symptomatology as elsewhere in the world, and that I know nothing of a third class of continued fever, neither malarial or typhoid.

SOME FACTS AND THEORIES ABOUT THE PRESENT STATUS OF SERUM THERAPY.

S. C. RED, M. D.,
HOUSTON, TEXAS.

There is no subject that has more thoroughly engrossed the attention of medical men, during the past decade, than this selfsame subject of "Serum Therapy." It has passed through the successive stages of first, ridicule, then denial, and, now, apaproval, more quickly than any other great advance in medicine, probably from the fact that this is an age of broadmindedness, rapid interchange of thought and startling surprises.

There is hardly any one now but what gives an attentive ear and nods of approval to a rehearsal of the latest advance in serum therapy, unless it be some stubborn, egotistic individual, like the man that said "the horse is sixteen feet high" and stuck to it. Even these (in the same vein) are now ready to say, "We were talking of the Trojan horse, and just said it so as to hear what you had to say."

Diphtheria antitoxin alone, of all the antitoxins, has taken a well-recognized place in therapeutics, and in doses ranging from two hundred to two thousand units, it possesses pronounced immunizing and curative properties. A statement like the above, made ten years ago, would have been looked upon as a positive evidence of lunacy, and five years later, as on a par with the famous lamp of Alladin.

Tetanus antitoxin ranks next in point of importance to that of diphtheria; but concerning it there is not near that same amount of certainty as follows the latter, possibly from the fact that there is much less extensive clinical experience with it. The great conservative bulk of the profession always want to verify the naturally extravagant claims of investigators before accepting them as gospel truths.

Concerning all the other antitoxins, with, possibly, the ex-

ception of cholera, the evidence is so meagre and conflicting that we are only left in a pleasant state of expectancy. We say pleasant, for when the facts are arranged according to theory, there is every reason to expect "paying ore."

A THEORY.

Dry, trashy things are theories, but there must be a working hypothesis. Then allow me to state: that antitoxins are enzymes, i. e., ferments, like pepsin. My reasons for assuming this are: that the action of antitoxin is not chemical; is selective, affecting only particular toxins; and its production, under favorable condition, is continuous, independent of toxins. Further, it is dialysable only to a very limited extent, viz., through the placenta and mother's milk. These bodies are always present in the blood, although, like pepsin, they need the necessary stimulus to call them forth. The stimulus in this case is a toxin. The toxin, however, must be of proper strength and quality or else, like all stimuli, it will over-stimulate and cause a failure of the product, i. e., antitoxin. The source of the antitoxins is likely the white blood corpuscles (a genus with many species), and is produced by them with greater or less vigor in different individuals, different species, etc.

Whether these antitoxins are products of distinct cell action or simply varying products from varying cell stimuli, remains to be settled. This much can, however, be said with confidence, that it is not in harmony with the law of conservation of forces to expect nature to furnish distinct cells to produce distinct antitoxins for myriads of toxins by which the blood is invaded. Further, from analogy, we know that bacteria have varying products, according to their conditions of life, and since low forms of animal and vegetable life are not far removed, similar conditions would apply to each. Through the recent experiments of a number of investigators, this argument from analogy seems to hold good. It has been shown that typhoid immunizing serum has greater bacteriacidal properties than normal blood serum for typhoid bacilli, and also that of the bacillus

coli. These two bacilli, as I have long contended, are near related and their immunizing serum, while affecting the bacilli of the one less than the other, still affects both more than normal serum. It would appear from this that the bacteriacidal properties of the blood are much increased by cultivation, i. e., its activity against any particular germ is the result of its continued special functioning. To elaborate further: Many agencies, such as excitement, physical weakness and varying stimuli, affect the production of pepsin. And at such time as this, a small quantity of either animal or vegetable pepsin, from other sources, will materially assist nature to accomplish her halting work. So, too, in the same way, antitoxin taken from some animal rich in this enzyme, may be added to the failing powers of nature and thus enable her in her own way to destroy the toxins that threaten her human existence.

This way is, through the efforts of other agencies, continued in a manner that we will now refer to: Antitoxins are in no sense bacteriacidal, but simply what their name implies, that and nothing more. The antiseptic powers of the blood is dependent upon an entirely different process.

A ferment in the normal blood, known as glabrificiens, softens and causes to swell the cellular envelope of invading bacteria, and owing to this condition they clump together, i. e., become galbose.

The bacteria, having their armor weakened, in the manner described above, become a ready prey to nature's germicides, the "alexines" of Buchner. These "alexines" are protied bodies, ferments in character and products of the white blood corpuscles. They are ever present in the blood and like a solid phalanx enable the blood to present a bold front in the pigmy warfare of anthropoidal cell and bacteria.

The antiseptic properties of the blood are much increased by its alkalinity, a condition favorable to the solution of the "alexines" and inhibitory to the bacteria. During an attack of a zymotic disease the blood in some mysterious way increases its alkalinity — possibly by lessened excretion—witness the ab-

sence of the chlorides in the urine during an attack of pneumonia.

It may be that in some such way as this, the praphylacis in scarlet and yellow fever, is obtained by sodium sulphite, as recommended by Elliot. Then, again, it is quite possible that many of the therapeutic agents, that we empirically use, act as stimulators of cell action and thus increase the enzymes normally in the blood. As an illustration of this, we might cite the ordinary treatment for syphilis. In this disease doses can be given, with impunity, that under ordinary circumstances would be toxic. The tissue cells have been so profoundly depressed by the disease that they require this active stimulus to bring about reaction.

I have touched but lightly upon the many sides of this important subject, and have only pretended to give it from my point of view. There are others who have a better grasp of the subject, and can give it in a clearer and better light, but this does not debar the humblest from giving his own impressions.

We all have every reason to congratulate ourselves upon being witnesses of this great advance in medicine, and it should cause us to wait with more diligence upon the birth of nature's secrets; for while they have come with many trials and groaning, they will yet continue to come, in the future, with the same certainty as in the past.

SECTION ON SURGERY.

SUPRA-PUBIC CYSTOTOMY AS A PRELIMINARY STEP IN THE TREATMENT OF CERTAIN CASES OF DEEP URETHRAL STRICTURE.

BACON SAUNDERS, M. D.,
FORT WORTH.

Since the resurrection of this operation into the ranks of legitimate surgery by the modern devotees of that art, its field of usefulness has gradually extended until now its claim to a permanent place in the confidence and esteem of scientific surgery will not be disputed. From being the most successful and scientific method of treatment in the majority of cases of bladder calculus, it has become at once the recognized, conservative and most reliable remedial agent we possess in the treatment of all those conditions of the bladder that require, as the important factors in their cure, absolute functional rest and perfect drainage. If its perfect adaptability to the relief of all such cases were more universally recognized by the profession, its beneficent offices would be more readily accepted by the laity. If it were more often resorted to in all cases of intractable inflammatory conditions of the bladder if they have been protracted and chronic, after the ordinary methods of treatment have been faithfully tried, no matter what had been the primary cause of their production, the writer is of the deliberate opinion that, while it would cut very short the number of operations of bladder irrigation and thereby probably very materially diminish the bank account of the average doctor, it would, at the same time, add much to the sum total of human health and happiness, if not to length of life.

It should be, in my opinion, the recognized proceedure in all such cases instead of the usual temporizing measures, that rarely, if ever, cure, but rather allow the unfortunate victim to drift

slowly but surely into a state of chronic, hopeless invalidism. The necessity is quite generally recognized among surgeons everywhere in all such conditions due to stone or prostatic hypertrophy. Is there any real reason, physical, moral or surgical, why it should not be the treatment, par excellence, in similar conditions due to other causes? The question presents itself to the practical surgeon about in this shape; on the one side a comparatively safe operation that is almost certain in its results,—these results are not only a symptomatic but a perfect cure of the case; on the other hand, a temporizing, uncertain treatment that, at best, offers only a chance of relief with the probabilities in favor of long suffering and permanent disability of greater or less degree. The wise and truly conservative surgeon will not, it seems to me, be long in choosing between the two.

In line somewhat with this idea, another class of cases is met, not infrequently, by every surgeon and which often cause us much anxiety and vexation of spirit. This fact must be accepted as my only apology for this paper. My own experience, in common with that of other surgeons, has not always been altogether satisfactory in the treatment of certain cases of stricture of the deep urethra. Often the result after treatment in this class of cases is such as to add neither to the comfort of the patient nor the reputation of the surgeon. I do not refer here, of course, to any stricture situated in the anterior or penile portion of the canal where the ordinary method of gradual dilatation with an occasional internal section of the stricture usually give satisfactory results. These are excluded by statute of limitation from consideration. Neither do these suggestions refer, in any way, to that other class of stricture of the deep urethra even in which it is possible to effect an entrance through the constricted canal by means of any kind of bogie and thereby produce gradual dilatation, which is the ideal treatment in such a case; but rather to that happily less common variety of cases that are old, very firm and contractile in nature, usually traumatic in origin and that have often been the battle ground

on which your predecessors in the case have contended valiantly with sound, with divulsion or urethretome against a steadily advancing foe, until now the canal is impassable, the bladder thickened, inflamed and distended, and the ureters invaded by the inflammatory process and even the kidneys themselves reached by the disease in its upward progress. In short, just such cases as are generally subjected to the operation of external urethrotomy or perineal section. If it is possible to pass any kind of a dilator through the stricture, it can always be fully dilated if the operator is skillful and patient, and such a case ought not to be cut, either internally or externally. Internal urethrotomy is a dangerous thing and the external operation is wholly unnecessary. In a case where it is impossible to effect an entrance through the stricture with any kind of instrument introduced through the meatus, is it always the safest and best course to depend entirely upon the operation of perineal section? Will it best meet all the indications in all the cases? The answer to these questions will depend upon what may be reasonably expected to follow its use in the way of immediate and remote dangers to the life of the patient growing out of the operation; and the promise of immediate relief from urgent symptoms, as well as the ultimate cure of the disease and its consequent evils.

While, not entirely free from danger, the operation is not generally a very serious one. The urgent symptom of urinary retention and vesical distention, can, undoubtedly, generally be relieved quite quickly by this operation. The ultimate cure of the secondary conditions complicating the stricture, is not, by any means, a certain result of this operation. It will not be contended that it is not an effective means toward the restoration of the normal calibre of the canal. It does not, and can not, give that perfect rest and complete drainage that are so essential to the cure of the bladder, urethral and kidney inflammation, that constitute such a formidable background to these cases and are such a menace to the future health and activity of the patient.

The supra-pubic section of the bladder meets all the indica-

tions for immediate relief from the distress and danger of urinary distention. It meets the problem of treatment growing out of the complications of stricture, above mentioned, as no other method can possibly do. It is simple and easy of performance, technically more simple than external urethrotomy. Under ordinary circumstances and favorable conditions, the mortality is almost nothing. It affords an opportunity to treat the stricture by dilatation from either the front or the back, as is most convenient, and under circumstances most favorable to careful, painstaking work. While all the distressing symptoms of the stricture are relieved by the operation, the local condition itself can be approached in the most leisurely and confident manner, knowing that if you do not succeed in increasing its calibre today, your patient will be in better condition for the attempt tomorrow.

So far as is known to the writer, this operation has not been deliberately undertaken for the relief of these cases in but three instances, and they all by himself, within the past year--the details of which, I will not detain you to give at this time. The first two resulted most happily every way; the third is at this time in the hospital, having been operated on two weeks ago, and is under treatment still with all the indications pointing to an equally satisfactory termination. A strange thing I have observed in the first two cases; a few days after the operation, I was able to pass the stricture with a filliform bogie that would not pass before, notwithstanding patient efforts to do so. If it should happen that this is a common effect on strictures of this operation, it would, at once, forever settle the question of the advisability of its adoption in all such cases as those under consideration. Another interesting observation in connection with all three of the cases, was the very rapid and noticeable improvement in the general condition of the patients almost from the moment the operation was done. They all expressed themselves as much relieved in mind and body and their improved appearance from day to day fully warranted the statement.

Judging from so limited experience, it is true, I am strongly

inclined to look with increasing favor upon this operation under proper restrictions in many of those cases that have heretofore been left to the imperfect results that sometimes follow perineal section in cases in which the bladder complications have become at all serious. This confidence, I think, well founded for these reasons: The operation is often more quickly and easily done than perineal section and there should be little difference in operation mortality.

Its results in immediate relief of all urgent symptoms can not be questioned.

Its ultimate effects in the way of curing chronic complications are far superior to anything that perineal section can offer. In case of inability to pass the stricture even after its performance by either the anterior or posterior route, its previous performance is no barrier to perineal section but, on the contrary, has prepared the way for its use under circumstances the most favorable possible.

RESECTION OF THE LOWER JAW WITH REPORT OF TWO CASES.

A. C. SCOTT, M. D.
TEMPLE.

A thorough discusssion of the various diseases for which resection of the lower jaw becomes necessary would involve more time and space than is desired in a paper such as I desire to present upon this occasion.

Indications for resection of the lower jaw are as follows: Ankylosis, tubercular osteomyilitis, phosphorous necrosis, mercurial necrosis, tumors, hydated disease, actinomycosis and infectious osteomyelitis. Resection of the candyles for ankylosis of the jaw is being done occasionally and with satisfactory results. Resection for tubercular osteomyilitis of the jaw, as far as I am able to learn, has not been very frequently done, and now since local tuberculosis of the bone has become more amenable to medical treatment, the operation of resection may be required very rarely.

Resections for phosphorus necrosis are now rarely necessary. Owing to the precautions taken in the manufacture of lucifer matches, many surgeons in this country have probably never seen a case of necrosis from phosphorous poisoning.

Mercurial necrosis is now also among the rare indications for resection of the jaw. Some years ago before modern methods for making looking glasses were introduced, employees of such factories were frequently liable to destructive ptyalism produced by the fumes of liquid mercury, followed by necrosis.

The most common and positive indications for resection of the inferior maxillary bone are the presence of morbid growths which are characterized by a tendency to recurrence. If the tumor is very small and growing from the alveolor border, it with the surrounding tissue, may be easily removed without any extensive operation, but care must be taken in all cases to get be-

yond the limits of the disease. In this connection, it is well to remember that spindle celled sarcomas are of frequent occurrence about the jaws, and that they have a tendency to creep along the periosteum beyond the defined tumor, therefore should be very carefully and completely removed.

Extensive mutilation for benign and slowly increasing tumors should not be undertaken when they can be avoided, and errors in diagnosis are prevented only by the most careful and painstaking analysis of each case, assisted when practicable by exploratory puncture of cysts for the detection or exclusion of those of a benign character.

Hydated disease is of such uncommon occurrence in the jaw that it need hardly be mentioned here.

Infectious osteomyilitis, being the indication for operation in the cases here reported, should receive a little more space in this discussion. However, I shall make it as brief as possible.

This form of bone disease is due to the lodgment in the bone in pathologic quantity of one or other forms of bacteria, known as staphylococcus pyogines aureus, citreus or albus and the streptococcus pyogenes. There may be found in the inflammatory product the pneumococcus and the bacillus of typhoid fever.

The usual route of entrance of these germs is probably the mucus membrane of respiratory or digestive tract and likely at some point where there is weakness of lesion of their epithelial lining. The mode of entrance may sometimes be direct by a wound exposing the bone, and it is likely that in the case of the inferior maxillary bone on ordinary alvealor abscess which may or may not at the outset contain these bacilli, is occasionally the source of infection which may result in a serious osteomyelitis. In view of the many pathogenic organisms existing in the mouth this need not excite wonder. The present death rate is about 25 per cent. In most cases where death does not occur after some weeks the manifestations of inflammation diminish, the general condition of the patient improves, the swelling of the member lessens and the disease assumes a rather chronic course, with the occurrence of necrosis and the forma-

tion of sequestra or the development of bone abscesses. Necrosis takes place in about 80 or 90 per cent of the cases.

The sequestra are seldom absorbed; sometimes, when small, are expelled spontaneously, and in other cases removed by the surgeon. The loss by necrosis is sometimes so great that what is left of the bone is liable to fracture upon the slightest provocation.

The treatment of infectious osteomyelitis is both local and constitutional. The latter, though of paramount importance, will not be detailed in this paper. The local treatment calls for a thorough removal of the infectious material. This is the surest prophylactic measure against pyemia and reinfection from the primary focus, and should be done under strict antiseptic precautions, as soon as a positive diagnosis can be made. When the disease has reached the periosteum and connecting tissues outside of it, multiple incisions and numerous drains are necessary to effect complete evacuation and good drainage.

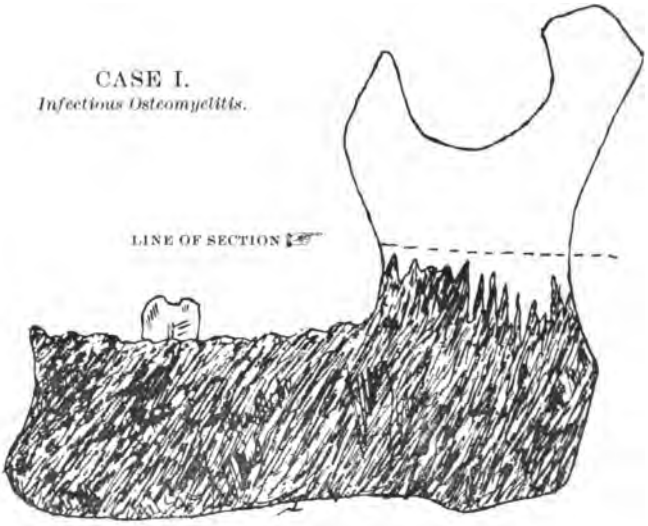
As a rule, the necrosed bone should be allowed to remain until the sequestrum has separated and an involucrum formed sufficient to support the member. However, when the patient's life appears to be in danger a resection of all diseased bone, or sacrifice of the entire member, is justifiable. When located in the bones of the extremities, amputation is to be performed, and when in other bones, resection should be resorted to.

Resections of the lower jaw are not to be performed without due appreciation of all the disadvantages and ill results that may follow.

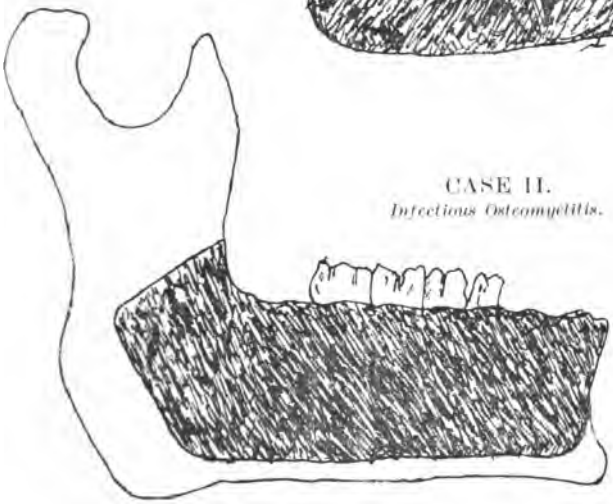
In all operations about the face, the greatest care should be taken to avoid extensive scarring and the infliction of unnecessary deformity, particularly by breaking the line of the lower jaw.

When the resection involves the symphysis and the attachment of the muscles supporting the tongue, the tongue may fall back into the pharynix and produce asphyxia. This can, however, be avoided by fixing the tongue by a strong silk thread, or by one of the modern prosthetic apparatus.

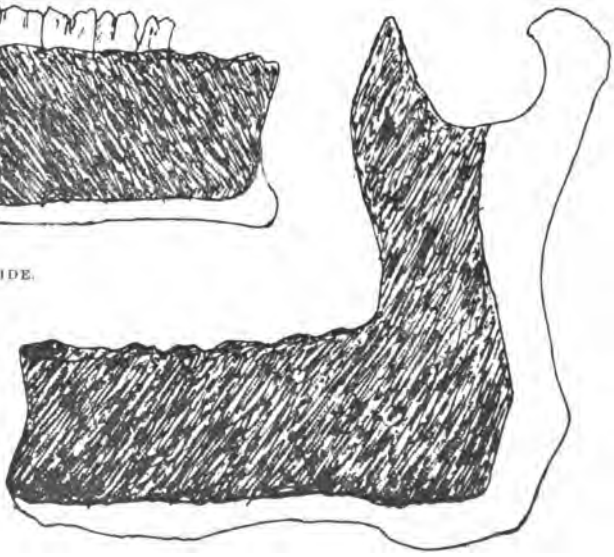
CASE I.
Infectious Osteomyelitis.



CASE II.
Infectious Osteomyelitis.



RIGHT SIDE.



LEFT SIDE.

In the lower jaw, abundant new bone is produced by the periosteum, and, for a time at least, extensive losses are repaired. It is unfortunate, however, that in the course of a few years a great, if not complete reabsorption of the new bone thus formed takes place, and the patient is left ultimately with very little, if any, support for artificial teeth.

Resection of the inferior maxilla for necrosis should be, as far as possible, subperiostial and intra-buccal, and the slow process of operation of the necrotic bone may be aided by the periostial elevator, or the blade of a scalpel. By degrees the sequestrum is loosened, new bone forms around it from the periostium, and eventually the dead bone may be lifted from its bed with perhaps slight incisions in the gum. "By this method," says Stephen Smith, "large portions of the jaw, and even the entire jaw may be reproduced during the process of sequestration, and not only its contour but its function be preserved." This method is unquestionably to be preferred to early resection in necrosis, unless from constant absorption and swallowing of septic discharge the health of the patient is greatly undermined so that his life is placed in danger, in which case the more radical operation of resection with knife, rongeur, chisel and chain saw should be resorted to.

For the removal of tumors, no such slow process is ever contemplated, and unless the tumor is unquestionably benign the periosteum is to be removed with the bone.

A method of resection has been devised by R. del Castillo Quartiellerz for the removal of the greater part of the bone through the mouth by sawing it below the processes with a chain saw passed behind the ramus into the mouth through a specially constructed canula. The object of this is to avoid extensive scarring. It is claimed for it that there is very little hemorrhage, and by it suppuration is materially limited. If wound of the inferior dental artery can always be avoided, it may prove to be a very satisfactory operation.

The technique of resections of each particular part of the lower jaw is so plainly laid down in works on operative surgery,

that I will not take the time of the Association by repeating it in this paper.

I cannot close, however, without referring to the subject of prosthetic operations. Claud Martin, of Lyons, has been able to obtain remarkable results, with ingenious devices, for the correction of maxillary and facial deformities after resection of the jaws. He has demonstrated to the satisfaction of many eminent surgeons that the tissues may be made to tolerate large prosthetic substitutes for excised parts, and that, too, immediately after operation. Such apparatus may be made of steel, vulcanite, soft rubber, etc. The substance must be non-absorbent, and absolutely aseptic.

After making this reference to prosthesis, justice to myself demands that I should state that the first operation herewith reported was performed in 1889, before Martin's successful experiments were known in America, else I should have attempted to use a prosthetic device. The second case did not require it.

Case 1. A. M., age 31 years; colored; female.—Began suffering with a carious tooth from which an abscess occurred, resulting in necrosis of almost the entire left half of the inferior maxillary bone. She lived in the Indian Territory, several miles from a physician or dentist, and neglected to have anything done until she came to Gainesville to consult me. When she presented herself for examination the jaw was enormously swollen; two large sinuses were seen below the inferior border between the chin and angle, all teeth but one on the affected side had dropped out, leaving as many suppurating sinuses in the mouth. The gums were very œdematous and friable, and the odor from the mouth was almost intolerable; a large quantity of pus was being discharged daily and emaciation was great. The use of the probe in the sinuses together with a finger in the mouth, revealed the fact that the bone was extensively diseased. It was readily seen that her condition would not well tolerate much delay, as she was very weak and had evidence of septic fever of a severe character.

After due preparation the patient was partially anesthetized

and an incision was made along the inferior border of the jaw from the symphysis to a point about an inch and a half above the angle. The periostium was carefully separated from the bone wherever it was found attached. With chain saw, rougeur and bone forceps the bone was carefully resected from the symphysis to the middle of the ramus. The facial and inferior dental arteries were isolated and ligated. The pyogenic membrane in the sinuses along the gums and inferior border was removed with the curette.

After due cleansing, iodoformized gauze was packed along the cavity left by the removed bone, and about two-thirds of the incision closed with silver wire. The gauze was removed the next day, after which the dressings were made every two or three days till healing had taken place.

In about six weeks there was considerible evidence of new bone haviffg been reproduced, and in three months after injury thorough osseous union existed. There was considerable deformity, not sufficient, however, to interfere with mastication on the unaffected side.

Case 2. J. C., age 26 years; male; Bohemian.—Was taken suddenly with pain in one side of his lower jaw followed by high fever; had two or three teeth drawn out, but experienced no relief. A short time afterward the jaw became quite swollen, and an abscess opened spontaneously in the mouth. The swelling and pain continued, and gradually extended to the other side. All the teeth became loose and all but four dropped out, leaving a suppurating gum and alveolus. When I was called in to see him he had been suffering about seven weeks and then had high fever, very profuse suppuration and was losing strength rapidly. He was also greatly emaciated. The odor from his mouth was so foul that it was with difficulty one could remain in the room. Careful examination revealed the fact that the disease extended beyond the alveolus.

Immediate operation was considered imperative to save his life. Accordingly he was partially anesthetized and a free incision in the mouth was made along the alveolar process from

one ramus to the other. The periosteum, which was partially lined with new bone, was stripped back with an elevator and with sequestrum forceps, bone nippers, rougeur and chisel removal of all diseased bone was effected.

The entire alveolus and the body were diseased down to within about one-fourth of an inch from the lower border of the body.

The disease included on the right side about one-fourth of the ramus, and on the left the anterior two-thirds of the ramus and the coronoid process. Removal of all this left but a narrow strip of bone representing the lower border of the body connecting the condyle on the left with the angle and ramus on the right. Hemorrhage was controlled by compresses. After thorough cleansing the wound was packed with iodoformized gauze. This was repacked several times by the physician in charge.

Recovery was rapid and uneventful. I have not seen the case since, but have been informed that quite a quantity of new bone has been formed, and that he is in good health.

TRAUMATIC INJURIES OF NERVES.

M. D. KNOX, M. D.,
HILLSBORO.

If I can interest you sufficiently to draw out a discussion on this subject, I shall feel that I have, in preparing this paper, done at least some good. In arranging this paper I have drawn on the fertile minds of such authorities as Murphy, Senn, Outton and Terings, all of whom are living lights in our profession, and are well known by all of you. These gentlemen do not always and in every case fully agree with our standard text books in regard to the treatment of fresh and granulating wounds, more especially when it comes to the practice of ausepsis and antisepsis.

Knowing these gentlemen to be thoroughly progressive and strictly on the most advanced lines of the profession makes this subject to me one of more than ordinary interest.

Since my paper is expected to treat this class of injuries principally surgically, I shall confine my subject to the long nerves of the extremities, they being the most readily exposed, and here we have the most practical results in this comparatively new and interesting field of surgery.

It will hardly be necessary for me to take you through the minute anatomy of the nerves. Still, it might be well to go over the more essential elements in their construction in order to make myself plain. The nerves as a whole are the most delicate structures of our wonderful make up, and require our very best and most painstaking skill to gain the best results. When their normal functions are disturbed, from any cause, temporarily or permanently suspended in their course, it becomes our duty to see what can be done in the way of establishing normal action.

The nerves may or may not be in company with arteries and veins. The larger ones frequently are, and the whole sur-

rounded by and nicely protected with movable connective tissue in such a manner as to admit of a good deal of freedom.

Here I will quote Terings for the anatomy of the nerves in the main, but not in detail. In the *Railway Surgery* of last year, No. 6, he says: The nerves are divided into two great systems, the sympathetic and cerebro-spinal, or motor nerves. With the sympathetic system surgery has little to do outside of the ganglia in the neck and those connected with the fifth cranial nerve.

If we study microscopically a small motor nerve, as the sciatic in the rabbit, we find that it is made up of small nerve fibres, each fibre constituting an axis cylinder, a white substance which surrounds the axis cylinder, and a thin membrane which encloses the white substance.

The axis cylinder is the essential, the transmitting portion of the nerve, and constitutes about one-third or one half of the nerve fibre. In the fresh state it is transparent, but after post mortem changes under a high power; it shows fine longitudinal striation.

The white substance of Schwann is apparently made up of fluid fat and acts as an insulator to the axis cylinder; the white substance of Schwann is interrupted at regular intervals by the nodes of Ranier. The neurolemema which surrounds and holds in place the white substance is composed of nucleated endothelial cells, and like the axis cylinder, suffers no interruption at the nodes of Ranier.

If we study the formation of nerve cords from nerve fibres, we find that a number of fibres are united into a bundle by connecting tissue called the endonurium. A number of these primary bundle are enclosed by a laminated sheath containing lymph spaces and called the peroneurem. Secondary bundles are finally grouped into nerve cords, surrounded by connecting tissues, the perineurium.

If we have contused nerve without a solution of continuity, the neighboring or surrounding parts in a fair state of vitality, we have but little to do more than to place or see that the parts are in

the most favorable position to give comfort and protection. See that other parts are not injured by your position, and follow the usual line of treatment in this class of injuries.

If you have a divided nerve with but little loss of tissue, and near the distal end, neighboring tissues in a good state of preservation, the above suggestion might hold good here, although it would be well to secure the divided ends in close approximation; but, if there is much loss of substance, amputation not being considered, an attempt to restore continuity should by all means be made.

If the divided ends can be made to approximate without undue tension, such as would cause the stitches to cut out, smooth the roughened ends, if required, evenly and accurately, coaptate the ends, stitch them together with from three to five stitches, according to the size of the nerve, and what is required to secure perfect adjustment, take one or two deep stitches, deep enough to catch the endonurium and perinurium as well.

Perfect coaptation is always desired, although not absolutely necessary for good results, but the more perfect the various parts are brought back together the quicker the union. The cells of the various component parts, or structures of the nerves, furnish their own material in repair, and no other. Each individual element furnishes cells of their own peculiar kind, and no other kind, and for no other tissue.

Neutriment of course is taken from blood plasma.

The axis cylinder appears to grow out first, project or elongate faster from the central end, this will be well to bear in mind in making artificial connections. When it is possible to do so, give this end the advantage.

When the distal ends cannot be made to approximate, nerve splicing may be performed, or some kind of bridging may be made for the nerves to follow on their journey in growing back.

Splicing may be made from either or both ends of the divided nerve.

This may be accomplished by going back along the line of the nerve as far back as the end of the gap to be filled, cut half way

through the nerve and carefully split it down to near the end, bring the loose end around and suture to the end of the nerve that you wish to restore.

When the loss is very great, one nerve may be attached or engrafted into a neighboring one, and still get very good results. I think, however, it is very much the better plan if it can be possibly done, to unite it with its proper connection. In closing the parts over an injured or an uninjured exposed nerve be sure that the parts do not impinge. Otherwise a brilliant operation may be spoiled in this way.

Bridging has often been successfully performed. Several plans have been suggested. Decalcified bone is considered good material for this purpose. Chromacised cat gut is also used with good results, and even silk in many instances has done well.

Of all the plans and materials suggested, I would prefer to use some of the resident tissue if it could be made to answer, a tendon, a sheath of some large vessel, fascia, or the connective tissue, living tissues are not so likely to give trouble by decaying or by absorption and the divided nerves will more readily follow it, and also draw some nutriment from it in making repairs.

I will briefly touch upon some questions that do not seem to be definitely agreed upon among surgeons. Since I have mainly depended upon the journals for my authorities, I am fully aware that I do not altogether follow our text books, and I hope that I am not expected to defend my paper in every detail by them. These ideas thrown out to you in this promiscuous way are not original but adopted and imperfectly classified by me.

Immediate union of any tissue never occurs in any part of the body, a kind of an amalgamation that holds the parts together is mistaken for union. New material is always furnished in making repairs by the process of karyokinesis.

Healing by first intention and healing by granulation is essentially the same. Length of time required is solely governed by surrounding circumstances and the amount of repairs to be made; the more perfect coaptation is performed the less time is

required, cleanliness, or asepsis, being observed. Too much interference and abuse of antiseptics do harm. Pay more attentention to asepsis and not depend so much on antiseptics as the average surgeon of today does, and better results will follow.

It is by far easier to keep poisonous germs out of a wound than it is to get them out after they once become fixed in the sore and have started families there.

It has been suggested that antiseptiss is good for the surgeon and asepsis for the patient. Oftentimes wounds would get well much sooner if antiseptics were not known or used at all. They not only fail to kill, or even in any way dislodge the germs after once inhabiting the wound, but actually kill or seriously retard the new and tender granulations that are necessary in the repair of all wounds. I refer mostly to such antiseptics as carbolic acid, bichloroides of murcury and iodiform.

Water that has been previously boiled, plain, or with a little clean salt added, not stronger than a ten per cent. solution, used at a temperature of about 140 F., is an efficient and a safe wash.

I do not wish to be understood that I would discard altogether antiseptics, but to my mind it would be better to do so than to indiscriminately use them or even follow the teachings of some of our older writers. After the sore has once become septic, see that proper drainage is allowed. The nerves alone do not require so much drainage but the surroundings that the nerve is being constantly bathed with such as toxic excretions does.

Stick to cleanliness and keep the parts at rest and you are combatting inflammation and following nature's cure—the greatest cure of all.

ENTERO-LITHIASIS—WITH REPORT OF CASES.

B. J. NEATHERY, M. D.,
VAN ALSTYNE.

Of all forms of bowel disorders, I suppose entero-lithiasis is least suspected, and occurs less frequently than almost any trouble with which we have to deal. Yet it does occur more frequently than most of us suppose. I do not doubt but that numbers of these formations pass unnoticed at various times from patients suffering internal disorders, and from some who do not have a pain, and apparently in robust health, and yet in our careless way, we fail to recognize them. Enteroliths, in my opinion, often causes many symptoms in obscure cases for which we are unable to account, and in institutions where autopsies are possible, they often clear up a clouded diagnosis.

Generally, these formations are composed chiefly of phosphates of lime and magnesia deposited around a nucleus; but this is not always their composition, nor is a nucleus necessary to their formation but a nucleus as a focus is the rule. They are usually found in the caecum and the colon, but may be found in any part of the intestinal tract from the stomach downward to the outlet. In size they rarely exceed that of a hazel nut, but they may be much larger. In fact, one was removed from the colon by Monroe, Sr., of Edinburgh, which weighed four pounds, and another is reported which measured eight inches in circumference. As a rule there is only one found, but perhaps two or three and as many as thirty have been removed from one stomach, and in another case nine. The above quoted Monroe, who, by the way, seems to be authority on this subject, reports a case where he detected twelve by the touch, in the colon of a boy during life.

Two or three of these formations have been known to become united by their close contact in the intestines. Any solid substance upon which the gastric juices have no effect may become

a nucleus, the most common being gall stones, pieces of hardened feces, the stones of fruits, such as cherries and plums, and small pieces of bone, the seeds of figs and other fruits, the woody knots in pears, may all conduce to their formation. Starch and carbonate of magnesia, when taken for a long period, are supposed to be potent factors in their formation. Enteroliths occur often in those who eat largely of oatmeal, and the nucleus then consists of the fibre of the oat. This variety is usually designated avenoliths. The Scottish people suffer most from this variety and it is thought to be due to the great amount of oatmeal devoured daily by them. These formations have a velvety appearance, fibrous, and analagous to the little hairy end of the husked oat. Dr. Cliff, years ago, was the first to point out this particular form of enterolith, and to suggest its cause.

The treatment of this disease would be that of any obstruction, for we rarely suspect the trouble until we have either partial or complete occlusion. Should it be detected without the grave complication of obstruction, their removal from the bowel, if possible, should be effected, and then the cause looked into and the offending food discontinued. The bowels should be regulated, as almost all cases give a history of habitual constipation. When a case presents the symptoms of obstruction, and the diagnosis is that of an impacted enterolith, it is all important not to wait in operating until irreparable damage is done by reason of pathological changes in the part. After the abdomen is opened, and the impaction located, an effort should be made to crush the stone by gentle pressure, provided the wall of the intestine is in condition to warrant the attempt. If this does not succeed one of two methods is open for consideration, namely: entereotomy, or the method suggested by Tait, which consists in passing a small needle into the mass in an oblique direction, breaking it up in that way. If entereotomy is attempted, the mass should if possible be moved upward or downward before making an incision, thus giving a healthy bowel in which to place the stitches. If the bowel has yalread become gangrenous, resection should be accomplished and the segments brought

together, my preference being circular entereorraphy. Langenbach reports a case of the stone lodging in the jejunum, and below I report a similar case in my own practice.

During the months of——and——, we had a great many cases of acute indigestion as evidenced by incessant vomiting and purging. During the height of the epidemic, Mrs S. came to have me prescribe for her husband, who she said was at home sick. By careful inquiry I arrived at the conclusion that he was suffering from the prevailing complaint, as he had all the symptoms of the trouble. I prescribed the usual remedies such as I had found effectual in similar cases, with the injunction to report to me the next day if there was no improvement in his condition. In the afternoon of the following day I was called and found him, as he thought, better. I was informed that his bowels had checked promptly, but the purgative of calomel and podophillin that I had prescribed had not acted. He was restless and uneasy, had vomited bile once or twice through the night; had no fever, pulse 80, bowels flat and apparently empty. He gave history of habitual costipation, but not extreme. He had a healthy appearance. I gave three c. c. pills and left three more, which were given in six hours as directed, but without an action. I then ordered sulphate of magnesia in tablespoonful doses every two hours until the next morning, without any effect. By that time the patient was vomiting bile every three or four hours, no fever, no tenderness or tumor over the abdomen, bowels still flat, no peristalsis, pulse 90, still restless, anxious expression. By giving no water but chipped ice, medicine was retained the next twenty-four hours fairly well; in the meantime I gave castor oil to the extent of one pint. High rectal injection was used with electricity to stimulate peristalsis. My diagnosis was obstruction from unknown cause. I had two gentlemen see the case, in consultation. I suggested an exploratory incision, which was thought inadvisable by counsel. There was still no tenderness, no fever, no swelling of the abdomen, but patient gradually becoming weaker. Counsel suggested a repetition of what had been done, viz: calomel, rectal injections and oil,

which was repeated for the next twenty-four hours, without any results except to farther weaken the patient. Atropia and strychnia were freely given hypodermatically. On the following day two other gentlemen saw the case with me. Calomel and castor oil were again suggested, one-half pint of castor oil being given at one dose and retained for some hours. You can imagine how thoroughly disgusted I was becoming with this line of treatment, but as counsel did not advise an operation, and as the patient was very much averse to such a proceeding, I had nothing to do but try again. On Friday morning patient complained of great restlessness and pains in lower extremities; no fever, no tenderness, abdomen flat, peristalsis absent, no tumor visible, abdomen very much relaxed.

Morphine was given to relieve pain in limbs and quiet restlessness. I again urged an operation, which was agreed upon by counsel and consented to by patient at 12 m. At 2 p. m. a median incision was made below the umbilicus large enough to admit the hand. The bowel seemed entirely empty both of solid elements and gas. On passing my hand upward it came in contact with a hard mass in the upper part of the small intestine just beneath the transverse colon. On bringing the gut down the mass was about the size of an egg, and pressed so tight that the gut was largely distended to accommodate it. I could not move the mass up nor down by gentle manipulation, neither could I crush it. An incision was made and the contents turned out. The bowel looked healthy in its distended state, but after the pressure was removed it turned a little dark, one spot in particular, which was turned in with the sutures. The advisability of resecting was considered, but all thought chances were better not to resect, as under a stream of hot water for a few minutes the color became normal, with the exception of the one spot, and we purposely made the incision through it, so that it could be turned in. We closed the wound with the Lembert Czerny sutures, and sutured the abdominal incision in the usual way, and applied an iodoform gauze dressing. The patient was so thoroughly exhausted that the extra time necessary to resect

would have been very hazardous. Patient rallied promptly and expressed himself as feeling better than for several days. Pulse dropped to 94, vomited twice before dark, but no bile. He rested well through the night, but complained of being hungry; was given predigested food and whiskey by the rectum. After midnight he took food by mouth, also water, this being the first food retained in nearly seven days. Bowels acted in the morning, and he was quite cheerful until early in the afternoon, when he became delirious. All the symptoms of perforation set up and at 5 p. m. he died.

I believe that if the operation had been performed twenty-four hours earlier, weak as he was at the time of the operation, and Monsel's method of anastemosis, or some other rapid method, been adopted, he would have been alive today. It is, gentlemen, in this class of cases where waiting too long brings the surgeon into disrepute and fills his mind with regret, and by all such cases dying, causes our patients to view an operation as an ante-mortem procedure, and consented to for the gratification of the surgeon.

GUNSHOT WOUNDS—TWO UNIQUE CASES.

J. T. BENBROOK, M. D.,
ROCKWALL.

It is not my intention to write a thesis on gunshot wounds, but to give you briefly, in my own manner, a history of two very important and very unique cases met with in actual practice within the past few years.

These two cases are very similar in their nature to each other, as the organs of reproduction in both instances are the seat of injury and very dissimilar, as the one is the female and the other the male organs. In September, 1893, I was called to see Mrs. M., who had just received two wounds from a 44-caliber pistol. The first shot taking effect just below the crest of the left illium, the ball ranging downwards and backwards, lodging against the first vertebra of the sacrum.

The opening was enlarged and the wound probed with the finger, and later with a porcelain-tipped probe, but failed to locate the ball. Eight or ten days later the location of the missile was made known by the formation of a sacral abscess, which was opened, and from which was discharged about six ounces of thick, heavy, yellow pus. A quantity of necrotic tissue was found and dissected away, leaving bare the bodies of the first and second sacral vertebræ. The wound was now dusted with iodoform powder and dressed with iodoform gauze; the temperature which had been running quite high for the past few days, dropped within a few hours to normal, the waste place was rebuilt with healthy tissue and the wound healed in due course of time. The injury received by the second shot is the one to which I desire more especially to call your attention. The woman was lying on her left side when she received the second or last shot, the shooter standing at or near her head; the ball passed between the eighth and ninth ribs of the right side, on a line from the axilla to the crest of the illium, cutting a small nick from the

lower border of the eighth rib. The wound was examined sufficiently only to demonstrate the fact that the ball had penetrated the abdominal cavity. A do-nothing treatment for this injury was decided upon; an antiseptic dressing was placed over the open-mouthed wound and results anxiously awaited. Patient rested reasonably well for the first few days. On the morning of the third day she complained of backache; said her menses had come on her during the night and it was yet two weeks until her regular time. After leaving her a few hours, a messenger came in haste and was very urgent that I return in like manner to my patient; reaching her in a short time she was found quite exhausted, but resting easy; said she had been suffering agonies with pains identical in character to labor pains; that a quantity of blood clots had passed, and since the passage of the last one she had been resting easy. I made a digital examination of vagina and cervix which revealed to me no satisfactory cause for the course things had taken. The nurse removed a sheet that had been folded and placed between the patient and the bed clothing and carried it into an adjoining room, when the ball that had passed into this woman's body between the ribs fell to the floor with a thud. The etiology of her menstruation was now clear. This ball had passed through the fundus of the uterus into the cavity of this organ and had been thrown off by uterine contractions. Passing abruptly from the female uterus to the male penis, we come to case No. 2.

Mr. C., aged about 45, was accidentally shot while rabbit hunting with a 32-caliber pistol, the ball penetrating the skin on the left side, about one inch to the right of the anterior-superior spine of the illium. The ball was deflected by the deeper fasciæ or by Poupart's ligament, and was found imbedded in the dorsum of the penis at its root, its base lying well up against the symphysis pubes, and its apex looking along the urethra towards the glans-penis. One of my neighbor physicians was first called to see this case, and said it was very difficult for him to locate the ball; in fact, did not succeed in so doing until the second day after the injury, when he was very materially assisted

in its location by the excessive sensibility of the part over the imbedded missile. I assisted him in removing the ball the third day; an incision was made down into the dorsum of the penis at its base and the ball found lying well down against the uretra was lifted away with a pair of small dressing forceps.

A marked ecchymosed condition of scrotum, penis and adjacent tissue was observed, in fact the whole pubic region was as black as a crow. The urethra was not injured, and the patient experienced no difficulty at any time in urinating. He made a speedy and complete recovery, and congratulated his attendants on having saved for him so important and useful an organ.

CARBUNCLE, AND REPORT OF CASE.

A. O. SCARBOROUGH, M. D.
SNYDER.

We, as practicing physicians, are rarely ever called to treat a more stubborn little "disorder" than carbuncles, and while the subject may be somewhat hackneyed to some, to preface my remarks with a few words relative to its pathology might be in order. Carbuncle is a hard and circumscribed inflammatory spot of the true skin, varying in size, usually forming on the cheek, neck or back; infiltrated with unhealthy lymph and is a dull red swelling, very tender to the touch and accompanied by a heavy aching pain.

Carbuncle is generally preceded by pain and is from the first a swelling of considerable hardness. The surface of the tumor then assumes a livid redness and a spongy feel; little ulcers now form on the skin which give it a seive-like appearance, so numerous are the orifices; from these a whitish discharge exudes. When the little openings are formed into one, the dead cellular membrane begins to escape.

These are the general local symptoms that can be seen with the natural eye, and are generally accompanied by great prostration, anorexia, headache, and other symptoms of low febrile impression.

The writer is of the opinion that the deeper tissues are involved from the beginning, and that the micrococcus pyogenes are present from the onset.

Carbuncles are troublesome to treat because all of the tissue involved will die and in spite of any local and constitutional remedial agents we may use we cannot make healthy tissue of any part of the tumor; on the contrary, nature will establish the line of demarkation and all of the tumor will slough away.

We find that people who are enjoying good general health are rarely ever attacked, but as a rule it is those of declining

years and their systems in a weakened condition with a sluggish circulation in that part of the anatomy affected.

Males are more subject to them than females, and people under thirty-five years of age are rarely ever attacked. But as the profession are familiar with their pathology and symptomatology, I will pass on to the report of a special case that came under my observation several years ago, that made an impression on me on account of several features.

REPORT OF CASE.

December 17, 1890, I was called fifteen miles into the country to see Mr. J. T. Cozby, age 58, and upon examination found him to be suffering from a carbuncle that had begun to cause him discomfort about ten days previous to visit. My first treatment was to make several free incisions after the plan of our lamented Prof. Gross, and painted adjacent parts with iodine and used ointment of lead and opium on the tumor. And of course instructed the family to keep patient on nourishing diet, such as Irish potatoes, soft cooked eggs, sweet milk, etc., and gave patient a small round of calomel (on general principles, or to arouse general glandular secretions), and put him on tonic treatment of elix. phos. iron, quinine and strychnia, with instruction to send and get a gallon of good brandy, which patient agreed to take.

The above dietetic and constitutional treatment was employed throughout patient's illness. As the patient lived fifteen miles from town, and I being quite busy in practice at the time, I did not see him any more for about two weeks. When I was called again, this time after driving through a bitter cold norther, I reached his ranch and found him in a comfortable dugout, though he complained of not feeling so well. Upon examination, I found that from his fourth cervicle to his twelfth dorsal vertebræ, with several inches on each side of spine, was involved and was very much swollen and distended, but the skin as yet had not become gangrenous.

I made several deep incisions and extracted one gallon and one quart of pus at one time, then washed out the cavity with bicloride sol., sixty grains to the gallon of boiled water, then dressed it with iodoform gauze, and maybe you think that old dugout did not get to smelling rank in the course of time from above treatment.

The above treatment was kept up from day to day until about two more weeks time had elapsed, then nature had established the line of demarkation, when, with the assistance of Dr. E. N. Camp (who, I am proud to say, at that time was a student of mine, and is today a member of this Association, and is practicing medicine at Lewisville, Texas), we put patient well under the influence of brandy and proceeded to cut away gangrenous tissue. When we had finished the operation we found that from the nape of patient's neck down to his twelfth dorsal vertebræ, and six inches on each side of spine, including space under each scapular, down almost to the periosteum, was minus any skin and muscular tissue. We then washed out cavity or space with the bichloride solution, and dressed it with the iodoform gauze. But we found that so much skin and muscle had sloughed away his shoulders would not stay in position. So we put on a figure 8 bandage and adhesive strips. We also used adhesive strips over his back so as to draw the skin as near together as we could, which lacked about from eight to ten inches meeting. We continued this treatment from day to day, using watchful care to keep pus from burrowing through into the thoracic cavity, as there was nothing except the thin intercostal muscles to prevent it.

Within a few days healthy granulations began to form, and continued to do so until the space and cavity that had sloughed away was all filled with newly grown tissue. By the first of March the skin had covered same, with the exception of a space about six inches wide and twelve inches long, which seemed to grow very slowly on account of the sluggish circulation in the vessels of the newly grown tissue. Skin grafting was discussed,

but we decided that in this case it would be all right theoretically, but practically not a success—hence it was not tried.

The skin continued to grow slowly but surely until by the 1st of September the whole wound was covered, but there was a purplish look about the new skin that remained for some time, owing to sluggish circulation of the blood.

Very little fever attended this case, but the patient's mind was affected on account of the flesh all being gone from over sixteen joints of his "backbone," and of course affected his brain more or less. There was about six weeks of his illness that was a blank to him. He was blessed with a good wife and faithful son, who nursed him through his illness. He drank his brandy freely during the first three months of his illness, about eight gallons being used. I believe, too, that his son, John, told me that he slipped several drinks while his mother was asleep, and on two different occasions his medical attendant was over persuaded to take a drink to the health of his patient and for his own stomach's sake. But by the first of April I had him cut down to "Anstie's allowance," and notwithstanding what I had done for him, he actually had the impudence to call me a homeopath, because I only allowed him such small doses of brandy. While there are some other interesting features connected with this case, I will not weary your patience with them to-day, but there are two other special features connected with it that are notably absent in a great many of my other cases. The first is, the old gentleman paid me every cent of his bill; and the second is, the patient is still living, and now resides near Lewisville, Texas, and I am proud to state is enjoying most all of the creature comforts of life.

Another feature connected with this case is, when I operated on patient I had a small scratch on my right hand and took pyæmia, and my hand, arm and lymphatic glands in the axilla became involved. Later on metastatic abscesses formed on my liver that discharged by way of the bowels, and to make a long story short, it came very near knocking me out of the twenty-foot ring of life to meet that destiny that awaits us all.

OPERATIVE PROCEDURE FOR BOWEL OBSTRUCTION, WITH CASE AND RECOVERY.

A. N. DENTON, M. D.,
AUSTIN.

One of the most profoundly interesting subjects to the physician and surgeon is bowel obstruction. The causes of obstruction are quite varied, and, except by invasion of the peritoneal cavity, are often difficult or impossible to discover. Nor is it always easy to determine the seat of the lesion. Pain, it is true, is apt to arise at the seat of the obstruction, or radiate from it, but the pain is often vague, and the tenderness difficult or impossible to locate, especially if there is much distension. In the absence of great distension, palpation may detect a tumor, and thus approximately locate the seat of obstruction. If vomiting sets in early, and is frequent and persistent, and is not markedly stercoraceous, and distension is moderate, we may suspect that the obstruction is either in the duodenum or the jejunum. Early vomiting which becomes truly stercoraceous, accompanied with distension in the umbilical region, points to obstruction in the lower ileum, or near the cæcum. Great and uniform distension, extending to the flanks, accompanied with tenesmus, would indicate obstruction in the descending colon or rectum. In the adult, the injection of water may, in some cases, enable the surgeon to locate approximately the seat of the obstruction. If six quarts of water are injected and retained, the obstruction is above the colon. If less than four quarts can be retained, the obstruction is probably below the ilio cæcal valve.

The passage of sounds, or rectal tubes, or the attempt to pass them beyond the segmoid flexure, is difficult, and I believe useless, and frequently injurious. The determination of bowel obstruction is nearly always difficult, and perhaps in a great majority of cases impossible, except by invasion of the peritoneal cavity. In children, intussusception is probably the most fre-

quent cause of obstruction. In such cases, the obstruction is rarely above the ilio cæcal valve. There is usually great tenesmus, and the passage of bloody mucus. The abdomen is usually soft, and if there is tenderness, it is generally in the right iliac fossa. When the obstruction is due to fibrous bands or internal hernia, there is usually a record of traumatism, or sudden and violent effort followed by symptoms of peritonitis, or pelvic pain. The attack is usually, but not always, sudden and violent. The vomiting begins early and is soon stercoraceous. Pain and tenderness are intense, and distension is frequently great. In such cases the obstruction becomes complete, so that not even gas can be made to pass the seat of obstruction.

In cases of obstruction by a foreign body, there is usually a history of such a body having been swallowed. Moreover, the obstructing body may often be located by palpation. Strangulation and obstruction may also be caused by gall stones, by a knuckle of the ileum passing through an aperture in the omentum, by a band formed in part by a persistent vitelline duct, or, lastly, by fæcal impaction, which is one of the commonest causes of the malady, and is generally due to partial or complete paralysis of the bowel, with diminution or abolition of peristalsis. In such cases the bowel, at the seat of obstruction, is often pervious to the fluid contents, whilst the solids become firmly impacted.

Obstruction from this cause is perhaps more amenable to treatment without operative procedure, than obstruction from other causes. Such obstructions are usually in the colon or rectum, and can generally be dissolved and washed away by large and repeated injections of water, or, what is frequently more effective, water and glycerine.

Now, what are the remedies at our command for these various forms of bowel obstruction, which may be tried prior to operative procedure? Briefly, they are: first, laxatives and purgatives, which are first resorted to by all men; second, injections of various substances, but principally of water; third, insufflation of hydrogen gas. The latter may be ignored as one of the

remedies in general private practice, as it is rarely if ever attainable.

One of the most interesting questions connected with bowel obstruction is, as to the proper time for operative interference. In many cases, it is difficult for the surgeon to determine as to whether or not the occlusion is complete. If the obstruction is above the colon, the surgeon may continue for many days to wash away fæcal matter from the colon by injections of warm water, and thus be led to suppose that the entire alimentary canal is pervious, when complete occlusion exists at some point in the ileum. In this way valuable time may be lost, and the golden opportunity for successful operative procedure may be past. In many other cases the surgeon is deterred from operating by objections on the part of the patient, or his friends, until it is too late, and the operation is done after such pathological changes have taken place about the seat of obstruction as to preclude the possibility of recovery.

No specific directions can properly be given as to the time for operative interference. However, as a general rule, it should be done as soon as the surgeon becomes satisfied from the faithful and judicious employment of the remedies above alluded to, that the obstruction is complete and cannot by such methods be removed.

In concusion, I desire to briefly relate the history of a case, which I think teaches the important lesson that there may be grounds for hope in operative procedure in some cases that are apparently hopeless.

The case is in some respects unique, and so far as I am informed, without precedent. I was called on March 8, 1896, to see Laura P., aged 13 years, who had been ill about one week. She had had light fevers with constipated bowels from the beginning of her illness, and for the last four days had been unable to retain any food in the stomach, the vomiting occurring about every six hours, but the ejected matter at this time was not stercoraceous. There was at this time considerable distension and hardness over the abdomen, but no marked tenderness,

either general or local. The pain at times was intense, but could not be referred to any particular locality. The evening temperature was about 101 degrees, but in the morning it was normal. The circulation was fairly good, although the pulse ranged from 95 to 120 per minute. She had had no movement from the bowels within the past four days, although purgatives had been administered by the mother. Believing from the present condition and history of the case that I had to deal with a case of bowel obstruction, I at once ordered tablespoonful doses of castor oil every three hours, and proceeded to flush the colon with warm water.

Considerable quantities of fæcal matter was thus removed, but with little or no relief to the patient. These flushings were continued from day to day on the 9th, 10th, 11th and 12th, with the addition of glycerine to the water used; the castor oil was also continued, and it was believed by the friends of the patient that some of the oil had passed through the bowels. I did not share in this opinion, the apparent movements from the bowels were only from the colon.

On March 13 Drs. T. D. and Goodall Wooten were called in consultation, as the patient seemed to be steadily growing worse. It was recommended by the consulting surgeons that the injections be continued, and that a rectal tube be passed as far beyond the sigmoid flexure as possible, and that the flushing be done through this tube, which recommendations were faithfully carried out, but without benefit. But on the contrary, the symptoms on the 14th were of greater gravity, and an operation was proposed and declined. The pain had by this time become so excruciating as to require the daily hypodermic injection of $\frac{1}{4}$ grain of morphia with $\frac{1}{100}$ grain of attropia. The entire abdomen was intensely distended, and vomiting recurred at intervals of six to eight hours, of large quantities of fluid and semi-fluid matter of offensive odor, but not distinctively stercoraceous.

From the 14th to the 18th there was little or no change in the general symptoms, except their daily increasing gravity, and the

increased debility of the patient. On the latter date an operation was again proposed, and urged, but again declined. On the 19th, 20th and 21st the vomiting increased in frequency, and the odor became more distinctly fæcal. The abdomen was like a drum, the intense distension interfering seriously with respiration. The pulse was 140 to the minute, and scarcely perceptible. On the 22nd the patient seemed to be steadily sinking, and death seemed inevitable. At this stage of the case, when the patient's condition seemed hopeless, the mother of the girl at last acceded to and requested an operation, and although the patient seemed to be in articulo mortis, I determined to give her the only remaining chance, however slender, for her life.

Accordingly, at 3 p. m., March 22, assisted by Drs. Bennett, Hudson and Jones, of this city, I proceeded, after a thorough cleaning of the surface, to open the abdomen in the median line by an incision about three and one-half inches in length from the umbilicus to near the os pubis.

Through this opening the intensely distended ileum immediately protruded, and was received on warm aseptic towels. The distended gut was intensely congested, and of a dark coffee color. There was, however, no adhesions, exudations or gangrene to be seen. In order to seek for the point of obstruction the ileum was removed from the abdominal cavity to almost its entire length. Tracing it downward the obstruction was at length discovered in the ilium, about two feet above the ileo cæcal valve. At this point the gut was firmly bound down to the posterior surface of the abdominal cavity by what seemed to be an ordinary fibrous band, completely occluding its caliber. This band was quite tough, requiring to be incised in order to release the bowel.

From the hurried examination of the nature of the tissue composing this band, and considering the situation of the obstruction, I have reached the conclusion that it was composed mainly of the remains of the vitelline duct. The bowel had so long been nipped and constricted at the point of the obstruction that when released it did not at once regain its normal shape and

caliber, but remained puckered and contracted, until by careful manipulation and stretching, it was believed to be partially pervious to its contents.

This accomplished, it was found, owing to the immense distension of the ileum above the point of obstruction, that it would be impossible to return the intestines to the abdominal cavity without using more force than was deemed safe in their diseased condition. The patient was barely alive, no time could be lost in discussion. I immediately adopted the only practical expedient, viz: the opening of the distended gut in three different places and removing its contents, consisting of both gas and fæcal matter. More than a quart of the semi-fluid contents of the bowel was thus removed. The bowel was completely collapsed. The openings in the bowel were then carefully closed, with the Lambert suture, using for the purpose fine sterilized silk, and cutting the knots very short. This done the bowels and the abdominal cavity were thoroughly irrigated with sterilized water, the intestines returned, and the abdomen closed in the usual manner.

The collapse of the patient was profound, and no one present expected her to recover from the shock of the operation. She seemed to be pulseless, but the ear applied to the cardiac region could detect its feeble contractions. She was carefully surrounded with bottles of hot water, and brandy and sulphuric ether were administered hypodermically. Reaction was slow, but complete. The bowels moved freely during the night, and on the morning of the 23rd her pulse was 120, and temperature 100 degrees.

I need not relate in detail the subsequent history of the case. Her recovery was rapid and complete, and at this time, one year since the operation, she is in the enjoyment of perfect health, and is at this time an attendant of the public free schools of the city of Austin.

THROMBOSIS OF THE LATERAL SINUS.

B. F. CHURCH, M. D.,
DALLAS.

Text books on diseases of the ear singularly treat only of mastoid complications of middle ear diseases and leave further extensions of the infection from that locality, as thrombosis of the lateral and cerebral sinuses and brain abscess, to general surgery. As the sources of infection are almost without exception, in the ear, their surgical treatment legitimately belongs to the aural and not to the general surgeon.

There is no history of the lateral sinus having been opened for the removal of inflammatory products, until the late period of 1884. The first successful case operated on was by Lane in 1889. This operation inaugurated a very important advancement in surgery and has deservedly become widespread and popular.

The gravity of the affection and extremely small chance for spontaneous recovery demands our closest scrutiny to detect its presence. When diagnosed or suspected, no time should be lost in operating. From abnormal situation of the lateral sinus, or carelessness on the part of the operator, it has, on several occasions, been accidentally opened without fatal results. In suspected cases, the surgeon is entirely justified in making exploratory investigations, by laying the sinus bare and introducing a sterilized hypodermic needle, to learn the character of the contents.

Many of the symptoms of thrombosis of lateral sinus are in common with abscess of the brain, as rapid pulse, stupor, vomiting, choked disc, persistent headache, etc., yet there are others which are almost pathognomonic and leave little room for doubt in diagnosis. In general, the symptoms may be said to be severe and persistent pain, which may be referred to the frontal or occipital regions, sudden rise and fall of temperature, going to

104-107° F., severe chills of short duration and frequent repetition, tenderness on pressure over the internal jugular vein, oedema in the mastoid, temporal and zygomatic regions without redress of the skin, etc. The most valuable diagnostic symptom of thrombosis of the lateral sinus is phlebitis of the internal jugular vein, which would feel hard and extremely sensitive to the touch, so much so that slight pressure may arouse the patient from a deep stupor. Sudden rise and fall of temperature is a characteristic symptom. Moos claims that oedema of the temporal region is a pathognomonic symtpom of thrombosis of this sinus. The conjunctivae and eyelids are, in most cases, oedematous.

Pneumonia, due to pulmonary embolism or the extension of the clot to the lungs, is usually the cause of fatal termination.

Korner has showu that the relative position of the lateral sinus varies greatly according to the curve of the sigmoid flexure and the corresponding depth of the sulcus sigmoides which is greater, throwing the sinus closer to the external auditory meatus, in brachycephalous skulls (skulls in which the occipito-frontal and bi-parietal diameters are nearly equal) than in the opposite, dolichocephalous. The depth of the sulcus is not commensurate with the degree of brachycephalicy however. He has also found it greater on the right side than on the left. In normal skulls, the situation of the anterior wall of the sinus is one-half an inch behind the center of the meatus. It sometimes, though rarely, lies so close. to the auditory meatus, as to preclude the ordinary mastoid operation without wounding it. The place for trephining in this locality, is usually computed from Reid's base line, which is an imaginary line drawn through the center of the external auditory meatus to the lower margin of the orbit. A trephine centered one fourth of an inch above this line and one inch behind the center of the meatus would open the lateral sinus.

These measurements are of little practical value, for the reason that when the operation is demanded, the source of infection is the typanum, with usual involvement of the antrum and mastoid

cells, and these cavities should always be opened and thoroughly cleansed of all inflammatory products, before opening the sinus, which is then accomplished by extending the wound backwards by means of the chisel or rongeur forceps. After exposing the sinus, if no manifest indications of a clot is seen, introduce a sterilized hypodermic needle to see if it contains fluid blood.

If a thrombus is found, as stated by Dr. Adams in Transactions of the American Otological Society, 1896, "three operative methods are open to the surgeon; first, to simply ligate the jugular vein; second, to open the sinus, and remove the thrombus with a curette; third, to combine these operations. Simple ligation of the jugular vein has not been done many times, and does not seem to have been attended with as great success as the other two have been."

Most English writers favor ligating the internal jugular vein before opening the sinus; such a procedure is probably not necessary or advisable, unless there is evidence that the clot is breaking down, or contains septic material. If the sinus is filled by a fibrinous clot, ligation is clearly not indicated; a thorough removal of the clot is all that is necessary.

The first step in the operation should be to thoroughly remove and ascepticise all sources of infection in the middle ear, antrum and mastoid cells, before exposing the sinus. Then enlarge the wound backward, and bring the sinus in full view for inspection. If the needle demonstrates a clot, lay the sinus open along the whole length of the skull wound, introduce a small curette and remove all particles of clot that can be reached, compression, in the meanwhile, being made by an assistant, over the jugular vein in the neck. If the clot is extensive, the wound should be extended with rongeur forceps up towards the torcular Herophili and below in the direction of the bulb of the jugular vein, and curette again used with endeavors to cause fluid blood to flow. After all the clot is removed that is possible, by use of the curette, the cavity should be syringed and with a normal salt solution and closely packed with iodoform gauze. If strict asepsis has been practiced, and no indications arise

for its earlier removal, the dressing should not be disturbed for four or five days. When necessary to ligate the jugular vein, the best place is low down near the clavicle.

Chloroform is the best anæsthetic to use in these cases, as it causes a depression of the cerebral centers, whereas ether is an excitant.

Provided that strict rules of antiseptic surgery is followed, there can be no danger in the operation, and we are not only justified in making exploratory investigation in suspected cases, but, in face of the fact of so many lives having been sacrificed by waiting for unmistakable localized symptoms to appear, such a procedure is absolutely imperative.

SECTION ON GYNECOLOGY.

PROPHYLACTIC GYNECOLOGY.

R. R. WALKER, M. D.,
PARIS.

I must beg the pardon of this Association for deviating from the usual prescribed course, in reading this article, as chairman of this Section. I therefore will not call your attention to all of the latest improved steps in gynecology, leaving that for each one to choose for himself. While there has been a great deal written about different and most approved operative procedures. We read much concerning the advisability of removing a suppurating uterus, together with its adnexa; some contenting themselves with leaving the uterus; others remove the entire uterine elements, but very seldom do we read concerning the prevention of this septic infection. So rapid has been the pace for some new advancement of operative steps that our old beacon light has been passed and overlooked. Preventive gynecology, as I consider it, has been to a great extent overlooked, and it is simply to cause you to look back over your work and see how you have neglected this branch that I have written this article.

I suppose all of us are often asked the question by our grand parents and old friends, "Dr., what is the matter with the women now-a-days—why are so many afflicted?" And we just as often reply, "There is nothing the matter with them, they are of the same build as of yore, the all-wise Father has in no wise neglected nor forgotten any part of them, but we have made such rapid advancement in our study of female troubles as to more easily recognize them than were our forefathers." But, I want to ask you, "Is this so?" The woman of today is entirely a different make-up as compared to her great grandmother, whose duties were such as to place her in a comparatively different

field. God bless her long since departed soul, she was the defender of her home while her husband was checking the advancing savage onslaughts, or was throwing off the tyrant's yoke, she rocked the cradle and at the same time carded the wool, in order that her hero might be made more comfortable during his war service, and as the years roll by she gives to the world heroes and heroines who take up the burden of life where she left off, perhaps during the same century, but an entirely changed and to all purposes a different world. Reared in opulence, the daughter's life is one of comparative rest. In a majority of cases she does not know where the kitchen is; she adorns the parlor as any piece of bric a brac would, and her duties are then ended. She seeks the society of young men at an early age, about puberty, and until she is married her duties are social—in fact, she allows nothing to interfere with her social obligations. She continues her social wanderings from day to day, oblivious of her monthly periods, oblivious even to the regular calls of nature, and when she goes to the marital altar, she is as unfit and as incapable to perform the duties of a wife and mother as a babe. Now add to this already nervous and hysterical woman some of the ills of motherhood, and you have an organism that is totally disabled, and she, in dim distress seeks the service of the gynecologist, who finds it impossible to give her any relief, except perhaps a removal of the uterus and its appendages, which might afford some relief. And, in a great many instances, this operation does not give the expected relief. Now, as I say, we are unable to give such a woman relief, even when resorting to the most dangerous operative steps, and as this is the case, could we have prevented the condition? We could have done so. Let us teach mothers the manner in which to raise their girls; let us teach them the necessity of earnest watch over their lives until the menstrual period has been normally and regularly established, and that the establishment of normal and regular habits physically are as necessary as their social regularities, and that she who can do a day's washing and scrubbing is a much more desirable mother than she who only knows the latest dance and the

most improved walk. Let mothers teach and educate their daughters' physical conditions and their social surroundings will appear as a corollary. We have in this enlightened day, ample means with which to accomplish this end, as is found in the well fitted gymnasiums, etc., and I am also a believer in the use of the bicycle for young women, of course taking all things into consideration, such as comfortable saddles and such late improvements as insure the most pleasure and ease. Teach young girls that a neglect of the calls of nature is almost criminal, and that the menstrual period is a warning against any undue and immoderate exercises, and you will have overcome two factors, the neglect of which is the cause of three fourths of the after female troubles.

Now supposing this girl has reached the age of twenty-one; she is supposed to be of a marriageable age—whom shall she marry? This is a question about which very little is said, and upon which much depends. At this day too little attention is paid to how much physical power the prospective husband is endowed with, the question seems to be, what is his financial endowment? She often therefore goes to the connubial couch, which is made of the most expensive material and covered by the costliest of spreads, while her companion is rotten from disease, a perfect culture medium of the most virulent of micro-organisms, viz: gonnococci, and while they are engaged in sexual intercourse, he is poisoning her vagina and uterus by the deposit of those germs, which, in nineteen cases out of twenty, will infect her. She is both impregnated and infected at the same time. I consider gonnorrhea one of the most hurtful evils with which mankind is afflicted, whose effects we, as physicians, are not combating, and whose thorough eradication we do not usually accomplish. We permit our patient, in whom there is an old uncured clap, to marry, and never explain to them the dangers to which they subjecting their wives. They are therefore innocent producers of disease, and we are the real culprits. In cases of old or chronic clap, we should warn the prospective bridegroom of its action, and of the dangers to the wife. And if he persistently

marries, then advise him as to the best means by which he can prevent the spread of the trouble. Give him a saturated sat. sol. of boric acid, and tell him to have his wife use it immediately after intercourse, and in no way to neglect it. Should his clap become more acute, as it often does, tell him to go fishing until he gets better. I say this is the plan when the husband has an uncured case. Of course, the most practical plan would be to prohibit his marriage until all evidence of the organism was absent. In case the wife gives evidence and symptoms of infection, prompt attempts to prevent the further progress of the trouble should be made. Excessive sexual excitement should be avoided, especially immediately before and after the menstrual epoch. There is another, you might say, general crime, prevailing at this time, and that is, the abhorrence most women have of rearing large families of children. Teach them that it is better to have ten children naturally, than to have one abortion, for, in the treatment of abortions, we find that most troubles originate, and the majority of women who are sufferers from old pelvic inflammation date their troubles from an abortion or miscarriage. The treatment of abortions will be considered by my esteemed contemporary, Dr. Moody, in this section, and I will only add this much, viz: that there is a general tendency on the part of the profession not to empty an uterus after abortions, but depend upon nature, and only resort to the curette after nature has failed. And I will say in this connection, that in nineteen out of twenty cases nature will fail to empty the uterus promptly, and when she does fail, the contents becomes a foreign, suppurating element, that if not removed early will start up a peri uterine trouble that will last the patient the rest of her life. In all cases of abortions empty the uterus immediately, as a prophylactic measure.

In considering the management of labor, as bearing upon this point, the only suggestion that I wish to call to your minds, is the too great prolongation of labor without the use of the forceps, as continued pressure of the head upon the soft parts causes sloughing, and is therefore a source of infection. Two

hours after completion of first stage, if there has been no advance of the head, we should apply and use the forceps. I will only call your attention to the advisibility of removing them as soon as the head presses upon the distending and retracting perineum, as we will often prevent a lacerated perineum. It is hardly necessary to advise immediate repair to this body. Even what might appear slight at first, sometimes causes an unnecessary degree of suffering and should be attended to. Bruisings and sloughings of the vaginal walls are often overlooked. Should our patients present the least evidence or symptoms of septic infection, a thorough examination with speculum of vaginal area should be made, as its membrane is often the road by which infection enters the circulation. If your patient has an elevation of temperature, say even as slight as 100, you may rest assured that there is absorption of sepsis somewhere, and it is our duty to thoroughly investigate. Don't temporize, saying, "There is some slight malaria about the case." We have thrown too much on that old horse already, and have found that we have a great many incurable cases of pelvic inflammation following our confinement cases. Now the idea is, to appreciate these troubles early and prevent much after-coming inflammation. Apply energetic and well directed efforts in the beginning and you will prevent considerable future suffering. Nature, it is true, will, in most cases, shut out and wall off this infection, but she does it with a certain amount of inflammatory condition that will always be a source of pain and trouble, and you will find that your efforts to cure are nil, excepting you resort to the use of the knife, a procedure that is not always fraught with the best results. You may not lose a single case in all your obstetrical practice during the puerperium, but have you followed up your cases? How many of them are coming to you now with some form of womb trouble? I am satisfied that another mistake is made by us in allowing our obstetrical cases to get up from the lying-in chamber too quickly; each case must be a law unto itself in this respect; complete involution should be established before our patient is allowed to sit up and stand

on her feet. A thorough vaginal examination should be made in each case, and we should determine just exactly the time when the uterus has assumed its natural size; then, and not until then, should she be permitted to get up from the bed. If we would adopt this plan and could have our patients strictly under our control, I am satisfied fifty per cent. of our gynecological cases would be cut off.

Of course, all neglected laceration, both of the os and perineum, should be repaired. I am satisfied that old laceration of the cervix leads to other more serious and complicated troubles, viz: carcinoma. Now, the principal point that I wish to bring out, is that the earlier we discover and appreciate the beginning of septic absorption from the uterine tract, the earlier can we begin treatment, and will thereby prevent such inflammatory conditions as will cause future trouble.

ETIOLOGY OF PELVIC INFLAMMATION.

H. K. LEAKE, M. D.,
DALLAS.

When selected by your chairman to form part of a symposium to discuss the subject of pelvic inflammation I felt reluctance in consenting, since this burning problem in practical medicine and surgery has been so completely threshed over by able and experienced minds as to leave little to be said by others at the present time.

I am to speak strictly on the causation of pelvic inflammation in woman. Presumably I should confine myself to the etiology of those inflammations which have their beginnings within the "dark room of the pelvis;" but somewhat transgressing this limit, with the view of bringing out in the discussion of the subject at least a diagnosis of those inflammatory conditions which occasionally have their terminals within the pelvis, I shall briefly refer to those of the latter class.

Pelvic inflammation frequently occurs in the young female before marriage, and when in a state of virginity. Explain it as you please, the human female is subject to a menstrual cycle. A theory of Stephenson, amplified by Johnstone, best explains the facts—that is, that a menstrual wave or blood determination to the pelvis occurs normally about every twenty-eight days. This wave is attended by abnormal excretion of urea, a slight rise in temperature and arterial tension. A balance is adjusted between the nerve mechanism which controls the wave and the amount of blood discharged, which is the result. The larger uterine surface and probably the Fallopian tubes, in normal fashion, excrete an amount of blood, which is one purpose of the menstrual wave. By cold, emotion, and shock of various kinds, you have known a more or less sudden checking of this excretion. The wave has no vent. It is spent upon and within the uterine walls and the cavity and the appendages. Turge-

scence follows, and later perhaps inflammation; the resultant being menstrual metritis, endometritis, salpingitis or endosalpingitis, and possibly ovaritis in different grades of severity, more intense if the cause is repeated. If in many of these cases, which must not be considered infectious, is added the septic traumatism of unwise instrumentation, they assume a more serious aspect, leading perhaps to the extirpation of organs which might otherwise have been saved. If we may believe Munde, there is, notwithstanding, a class of cases in the young female wherein operation may be demanded. Here such uteri, and possibly the appendages, have by some means, not necessarily specific nor through careless instrumentation, become infected from the vagina. According to Doderlein and others the germs found within the vagina in the normal condition are innocuous. But given an inflammatory condition of the uterus from any cause, and the consequent removal of the protecting mucous plug within the cervix, such germs become active and, invading the uterus, convert an otherwise simple inflammation into that of a septic nature. The treatment having in view the causation of such serious types of inflammation, where the simple grades of the disease primarily obtained, is obvious to the careful physician. Let me mention an exception. There is a large class of cases—I wish to emphasize this point—wherein there is a marked interference with the menstrual wave. In these there cannot be sufficient outlet for the flow, hence congestion and finally inflammation follow. These are cases of undeveloped uteri and appendages. I may say, in this connection, that these uteri are not necessarily infantile; they are of different grades of development, but if their cavities and walls are of moderate size inflammation may be expected to follow. I am not to give the treatment of these cases, other than to say that the risks of instrumentation may be necessary for their development.

It has been asserted in high quarters that where ovaritis occurs this is invariably due to extension of disease through the Fallopian tube, and that where evidences of such tubal extension are wanting at the operation such disease had long since

passed away, leaving the ovary inflamed, enlarged, or cirrhotic. I do not so consider it, nor are many good authorities in consonance with this view. Infection here may not play its role, and the checking of the menstrual wave is probably the sole factor. I say this with special regard to the unmarried female.

Pelvic inflammation in the unmarried female is sometimes observed where there is congenital or acquired displacement of the uterus. Such inflammation may be caused by misdirected attempts at reposition, but also for want of drainage and hence interference with the menstrual wave. They result in conditions that are much aggravated by injudicious treatment.

In the unmarried female specific inflammation of the uterus and appendages is a frequent occurrence, but, agreeing with Dr. W. E. B. Davis, of Alabama, I am not able, from my own experience, to assert that gonorrhea is so much a cause of these inflammations as we have been led to believe. Such diagnoses have often been made haphazard without the gonococcus of Neisser being looked for, and I have known the simplest forms of endometritis to be ascribed to this cause and subjected to unnecessary and harmful operation.

Pelvic inflammation in the unmarried female is often a vice of nutrition. Girls of low vitality or tuberculous parentage—I do not here refer to tuberculous endometritis—especially when denied good food and fresh air, are very subject to uterine catarrh. The fashionable society girl is frequently the victim of the same disorder, and it is often surprising to discover how potent these causes are. Under this head the different items in the causation readily suggest themselves, but there is one which I desire to particularly emphasize, and that is chronic constipation. Of course this has been known for years, and forms a part of the definition of woman given by an old physician, who said: "A woman is a constipated thing with a pain in its side," including in this description, however, women of all ages.

It is asserted by Dr. C. S. Bacon, of Chicago, that pelvic inflammation of a most serious character (pelvic peritonitis, pelvic cellulitis) may result from extension of disease from the

rectum. I believe he does not confine his assertion to the married female. I have never seen such cases, but have known two where pelvic peritonitis of virulent type followed upon operation for stricture of the rectum. One of these died; the life of the other hung in the balance for four weeks. Pelvic peritonitis—local or general—in the virgin may form by extension from inflammatory conditions of the appendages. Abscess of the broad ligament may even result from endometritis of the uterine cavity, by extension along the lymphatics through the walls of the organs into the neighboring cellular tissues. In the virgin the latter condition is rare, but may be the consequence of unnecessary or unclean curettage, the use of a dirty sound, or incision or rapid and forcible dilatation of the cervical canal, which, particularly in a small and rigid cervix, may rupture the uterus and give access to septic germs into the tissues of the broad ligament. In a case where a Goodell dilator was employed I discovered two lateral furrows on each side of the internal os and penetrating to the peritoneal investment of the uterus, and in another I have known the latter to have been widely ruptured into the broad ligament. The external os showed no signs of rupture. It is known that the same result has occurred with Hegar's round dilators, as well as those of Hanks, even when carefully used. Tait's dilators are unscientific and dangerous. Modifications of all these may be placed in the same category. Do me the favor to mention some form of dilator for rapid work which is free from this objection. If we employ a slower method by the use of any form of tent, in spite of all precautions, sepsis may result; and intrauterine stems, while I sometimes watchfully employ them, must be considered as a charge of dynamite within the uterus, and which needs but the faintest spark to explode with disastrous effect.

In unmarried females endometris with its complications occasionally follows upon masturbation and unsatisfied sexual desire; certain temperaments are responsible for these conditions. I believe it has been assumed by Lawson Tait that, regarding the society of males, the restraints imposed upon their daughters by

modest and over-anxious parents, themselves raised in a similar way, are responsible for many irregularities of menstruation and repeated interference of the menstrual wave, hence resulting in a chronic and possibly acute inflammation of the uterus and appendages. I have not exhaustively inquired into the history of many cases in order to establish for myself the truth of this asserted causation, but am impressed with the force of its logic.

The causation of pelvic inflammation in the sterile woman will be the same as that already mentioned as affecting woman in a state of virginity, with the exception, probably, that such disease in the former is itensified. A plausible theory is that, in the female whose menstrual function is regularly established, the sexual apparatus, for its own normal maintenance and integrity, requires a certain amount of rest which must be considered physiological. Now, evenly distributed pregnancies and lactation periods throughout the life of such a female secure this rest in the only natural way. Given a normal pregnancy in a developed woman and a well-conducted labor, such a condition may prove of immense benefit to the growing female. Allowing for these provisos, therefore, pelvic inflammatory disease may thus be obviated. Otherwise, and for other reasons, sterility is a curse. More attention should be paid by the profession to the treatment of this great hindrance to the comfort and happiness of a large class of patients who consult us.

Considering now the causation of pelvic inflammatory disease in the parous woman, we are confronted with serious problems. In certain discussions which have recently appeared on this subject the causative factors of such pelvic inflammation have for the most part been thus arranged in the order of their importance:. first, pelvic inflammation following upon gonorrhea; second, parturition; and third, abortion.

For example, English and American authorities place the effects of gonorrhea at about seventy per cent., but German authorities believe that only about twenty-six per cent. of these cases can be referred to gonorrhea as a cause. In Lawson Tait's

large experience he accords very nearly with the former view. And if, while with him, I might be allowed to judge from microscopical evidence, I agree with his statements, at least as far as his clientele is concerned, for nowhere else, nor in my own experience, have I seen the ravages of pelvic inflammatory disease so intense and general throughout the pelvis. So frequently was this observed in his practice by others, or asserted by Tait himself, that it was declared by many surgeons, perhaps ironically, that "all gonorrheal cases drift to Birmingham." This contention of Tait was for long disputed, but it appears that later researches by Wertheim, Bumm, and Steinschneider have, by the severest tests, almost if not quite confirmed Tait's observations. In a discussion last year Rufus Hall, of Cincinnati, closely approached the same statement. Dr. Davis, of Alabama, could not agree with him, nor do I; but the reason for this discrepancy readily appears, since the clientele of the disputants is necessarily different. Nevertheless, whatever the percentage of cases, gonorrhea holds its own sphere as an important factor not to be overlooked in the causation of uterine, tubal, ovarian, pelvic, and peritoneal inflammation. To positively ascertain the percentage it would be necessary, as Prochownik does, to examine inflammatory products during operation for extirpation of the appendages in every case, at least where the removal of both sides is contemplated, and in the ordinary treatment for local disease of the vagina and uterus, to determine whether or not the gonococcus of Neisser is present in the discharges. It is claimed that the gonococcus may be so imbedded in the underlying tissues as not to discover its existence, and yet the case may be of gonorrheal origin; deprived of this essential test it is impossible to classify the case. Lawson Tait claims that gonorrhea is incurable, thus corroborating the once repudiated statement of Noeggerath. Now, I have seen a statement by a leading New York specialist in genito-urinary diseases that at least ninety per cent. of men, married and single, applying to him for treatment, have given positive assurance that at some time in their lives they have had

this fateful malady. Take this latter statement in connection with that of Noeggerath and of Lawson Tait to fully realize the vicious role which gonorrhea plays in the causation of pelvic in-inflammatory conditions of women. Respecting the remark made above as to the wide-spread effects of gonorrhea in the pelvis, it has been claimed that the gonococcus spends its force upon only the cylindrical epithelium, the squamous epithelium of the peritoneum escaping with very limited effects; but recently this has been shown to be a fallacy, so that, while my reference to this point encroaches upon the diagnostics and pathology of pelvic inflammation due to this cause, I mention it as one of the principal etiological factors in the beginning and extension of the pelvic peritoneal inflammation which may diffuse itself throughout the abdominal cavity.

The effects of normal labor and abortions in the causation of pelvic inflammation are well known. Considering the first, let us look somewhat at the pathology. During pregnancy the excretory organs are overtaxed; excrementitious products, both from the fetus and the mother, are poured into the circulation. Often there is marked anemia. If the mother's economy is equal to this increased burden all goes well. Ordinarily the avenues of infection are closed; the blood and lymphatic pabulum, local and general, upon which germs may feed and thus poison the tissues, will not be reached. But once open wide the utero-vaginal passage, the scene may change. Such a woman must always be considered as facing the gravest dangers. This condition supplies a general predisposing cause of infection. Now add to this the enlarged and succulent uterus with dilated venous and lymphatic sinuses (the former choked with thrombi), the bruised and lacerated cervix, contused vaginal walls, and torn perineum, and we have a *locus minoris resistentiæ*—an ideal breeding ground for septic germs. If through careless or ignorant obstetrics septic germs be planted upon this culture medium, or those normally innocuous in the vagina be conveyed into the uterine cavity, serious forms of pelvic inflammation may result—septic endometritis, multiple

mural abscesses, broad-ligament abscess, salpingitis, pelvic peritonitis. A like train of evils may follow in cases of abortion, if not properly handled. In the latter case, as in the first, the uterus *must positively be known to be emptied.* The dead ovum is a foreign body always liable to infection.

Assuming as a well-established fact that most, if not all, pelvic inflammations in women are due to infection, it is important for us to closely investigate every case to know how this has been brought about. Certainly the causation may here be laid either upon the physician, nurse, or patient with her immediate surroundings.

Senile endometritis is a form of pelvic inflammation not seldom encountered after the menopause. Munde and others have described these cases, and attribute the causation to some perversion of the atrophic change going on in the lymphoid tissues of the uterine cavity at this period of life; but in my cases there was a marked stenosis of the cervical canal. In one patient, after careful dilatation, I emptied the uterus of more than one ounce of offensive pus. In none of them did any periuterine inflammation exist.

In both single and married women we sometimes meet with rare forms of pelvic inflammation, the causes of which surprise us. In a case where severe bladder symptoms existed for several years, unrelieved both in New York and Texas, the autopsy showed a round, perforating ulcer of the fundus of the bladder. The patient died from exhaustion, due to pericystitis in the form of pelvic cellulitis and peritonitis. This affection, somewhat analogous to perforating gastric ulcer, was first described by Lawson Tait. Cystoscopy would now reveal the cause.

Small suppurating ovarian and dermoid cysts deeply fixed within the pelvis, confusing in diagnosis, are often the cause of pelvic inflammation. On several occasions I have removed such cysts to find a high grade of inflammation, not only within but without the cyst walls. Of course they are not confined to the parous woman.

Referring to those pelvic inflammations having their origin

above or about the brim of the pelvis, but announcing themselves below the latter, I may briefly consider their etiology. According to Byron Robinson, whose observations I have repeatedly confirmed, concerning the elective points along the bowel tract for the origin of peritoneal inflammation, one of the principal locations is the sigmoid flexure. I have seen chronic peritonitis, slowly but no less surely implicating the left half of the pelvis, beginning at this site. Such inflammation is often diagnosed as ovarian or tubal disease. It is due to chronic constipation, with final ulceration of the bowel wall, through which germs pass and infect the peritoneum. According to the same authority, and confirmed by many others, the appendix vermiformis in thirty per cent. of cases is long and hangs within the pelvic cavity. Its diseased tip may or may not attach itself to the corresponding appendage and infect this. Inflammatory conditions of the appendix may result in abscess which points somewhere within the pelvic cavity. Psoas abscess may also eventuate in a swelling in this region. In a case where the diagnosis was obscure I opened the abdomen to discover the ovary, tube, and appendix healthy, but a psoas abscess had worked down through the fibres of the muscles.

Pelvic inflammation may be the first sign even of perforating gastric or duodenal ulcer. Here the extravasated fluids have gravitated to the pelvic cavity, where the first symptom of peritoneal inflammation may appear. I have treated several cases of this kind.

Pelvic inflammations often follow the most skilful and painstaking operations. Who will estimate the amount of suffering and death caused by unwise and heedless interference? The "swabbing gynecologist" is abroad in the land. His victims drift in numbers to the specialist, who perchance completes the work by sweeping out both uterus and appendages, much as one takes out the rotten core of an apple. Operating through a germ-laden vagina, the ubiquitous sound, dilator and curette do the rest. Let better diagnosis and a more liberal survey of the diseases of women stay his hand. There are nerve counterfeits

of uterine disease and pelvic inflammations which resent local treatment. Howard Kelly has described this latter under the head of pseudo-pelvic inflammation, and I can verify his observation. Goodell and Kelly are right.

If I have but simply echoed that which has been better said by others, my apology is that I have from my own experience added a mite in corroboration of their original words.

METHODS OF DIAGNOSIS OF INFLAMMATORY DISEASES OF THE PELVIC ORGANS.

J. M. COBLE, M. D.,
DALLAS.

I desire especially to speak to the general practitioner, as to you the patient applies first to ascertain her condition and for treatment.

We include all affections of the tubes and ovaries in the term, "Pelvic Inflammatory Disease," resulting from infection of these organs or from traumatism. Plastic lymph being thrown out as the result of this inflammatory process, therefore forming adhesions between the uterine appendages and the adjacent peritoneum. A diagnosis of true pelvic inflammatory disease is made by means of these adhesions.

According to the location this inflammatory condition of the peritoneum is called perisalpingitis, perioophoritis or perimetritis.

The more common affections of these tubes and ovaries exciting this inflammation of the peritoneum are salpingitis, pyosalpinx, tuberculosis and hydrosalpinx.

Pelvic inflammatory disease may be diagnosed by the following methods: Dysmenorrhœa may not be present and there may be long intervals in which the patient may be free from pain; this is often true in the most aggravated cases in which there is a large accumulation of pus.

Fever more frequently absent than present is a sign of value, being observed only when there is absorption from the diseased area. Pus gives rise to no fever as a rule, if the collection is well encapsulated.

It is possible for a patient to have a pelvic abscess and yet remain in blooming health; on the other hand, in these pus cases, emaciation and cachexia are sometimes extreme.

Pus flowing from the vagina, unless carefully inspected by the

physician, does not signify an abscess, although the patient gives a history of a free discharge, for patients often confess a discharge from an abscess with muco-purulent leucorrhœal discharge

In the diagnosis of pelvic inflammatory disease the essential points are detected by a direct digital examination of the affected organs by vagina, rectum and lower abdomen.

For all examinations of the pelvic organs the rectum should be thoroughly emptied and, in many cases, the patient anæsthetized.

In the course of the investigation you must bear in mind the evidences of changes in mobility, size, consistency of ovary and tubes, as well as uterus. The diagnosis of true pelvic inflammatory disease may be made, if *hard resisting* surfaces are felt lateral to the uterus, and the cervix uteri can not *easily* be displaced upwards. Through the rectum can be most distinctly felt the inferior and posterior surfaces of resisting masses detected by the vagina filling out an area corresponding to the base of one or both broad ligaments. A board-like hardness peculiarly roofed in one or both sides of the vaginal vaults often characterize pyosalpinx.

By digital examination through the vagina one is not able to detect more than a small mass of doubtful identity lateral to the uterus when the evidences of disease are not so distinct as in the cases just detailed.

A bimanual examination through the rectum and lower abdomen will often demonstrate this to be an inflamed adherent mass, attached to the broad ligaments.

In order to palpate the pelvic structures clearly it is necessary in making examination by the rectum, to introduce the finger up beyond the ampulla or rectal pouch behind the uterus.

An ill-defined sense of resistance, marked pain or wincing under the examination, does not justify a diagnosis of any kind.

The bimanual examination may prove deceptive when the ovary or ovaries and the tubes are bound down by ligamentous or delicate bands of adhesion, there are often no alterations in the

size of these organs, and the amount of mobility still retained may be very great.

Under these circumstances the most perfect method of examination of the pelvic structures at our disposal must be employed to establish the diagnosis, and we have recourse to the trimanual examination conducted at the same time by the vagina, rectum and lower abdomen. The efficacy of the trimanual examination depends upon the fact that the normal uterus can be drawn down to the vaginal outlet without harm, and the tubes and ovaries also becoming displaced in proportion to the displacement of the uterus are thus brought within easy touch.

The tenaculum hooked in the anterior lip of the cervix, which is now drawn gently down towards the outlet.

If at any point resistance is felt the traction must not be carried further until the cause of the resistance is ascertained. The uterus is thus detained in its artificial decensus, while the index finger of the left hand is introduced in the rectum and carried up to the top of the uterus and laterally over the broad ligaments, ovaries and tubes.

In doubtful cases the ovaries are detected by means of the utero ovarian ligaments. Upon running the palpating finger out one of these cords one-half to one inch it comes in contact with an abrupt enlargement, which is always the ovary.

The diagnosis of inflammatory diseases may be made at once, if the ovary is large, ill-defined in outline and more or less fixed. As the ovary is lifted by the palpating finger, you should closely outline its border and surfaces. In this way the most delicate adhesions will be discovered, and you may be able to exclude inflammatory conditions.

Knee elbow method, patient standing.—Much is to be gained by this method as to the condition and position of the pelvic structures, which is the same when walking or the pressure of the abdominal contents favor an abnormal position, which is often changed when the patient assumes a recumbent position.

I have dwelt thus much upon the subject of examination by the means of these methods, not to depreciate the use of the

speculum in necessary cases, but rather to bring out the fact that in investigating the majority of pelvic ailments a positive and differential diagnosis cannot be made other than by these methods.

An attempt to make a diagnosis without directly palpating the pelvic organs is at least but more or less clever guess work. It is always best to simplify methods of examination as much as possible.

August last, was called to see a patient who had aborted six days previous from the use of a pair of scissors introduced into the uterus. She had diffused peritonitis. I advised an operation, which was postponed on account of the absence of her mother. On my return at the appointed time, met her mother, who informed me the patient was resting easy and I need not come in, as she had called in a doctor who could cure without an operation. I said impossible. But she was sure her daughter would get well, as she had applied a large poultice. The daughter died twenty-four hours later.

A similar case, abdomen full of pus, patient in the extreme. I decided to operate. After cleaning up, gave $\frac{1}{4}$ grain of morphine and $\frac{1}{30}$ grain of strychnine, cleansing and loosely packing the uterus with antiseptic gauze.

With hook in the posterior lip of the cervix, raised as high as possible, with small pointed shears, placing the point in the median line, just posterior to the center of the cervix, pushing through the vaginal wall opening the points slightly, making an incision, running down the median rhappe, taking care not to penetrate sufficiently deep to wound the rectum, thus making a button hole incision. If there is softening or pointing elsewhere, puncture should be made accordingly. As soon as the vaginal wall is incised the forefinger is introduced cautiously, boring into the tissues closely hugging theuterus. Use no instrument after making the incision for the introduction of the finger, which is withdrawn as soon as the pus cavity is entered and the contents allowed to escape.

It is immaterial whether the pus sack is intra or extra peritoneal, the procedure is the same.

Loosely packed vagina with gauze; redressed for a few days; patient made a rapid recovery.

This simple operation carries with it little or no danger if proper cleanliness is observed.

I mention this to encourage you in these urgent pus cases to do something that tends in the direction of saving life. Do not be timid and depend on poultices and morphine, but with knife or shears go through the Latin anatomical names and get to the pus. You will often find these cases too feeble to stand an anæsthetic. This is truly a life-saving operation, and these are desperate cases; on the one hand is certain death, while on the other there is at least a mere chance of recovery. There is no room for timidity or waste of time. Here is the opportunity. You must make the best of it. Takes but a moderate degree of skill to do many an operation that may save life.

REMARKS UPON CANCER OF THE UTERUS BASED UPON A PERSONAL EXPERIENCE OF NINETY-SEVEN HYSTERECTOMIES WITH ONLY FOUR KNOWN AND EIGHT SUSPECTED RECURRENCES.

EMORY LANPHEAR, M. D., PH. D., LL. D.,

ST. LOUIS, MO.

Formerly Professor of Surgery in the Kansas City Medical College and of the Principles and Practice of Surgery in the St. Louis College of Physicians and Surgeons.

To the question so often asked of late, "Is cancer of the uterus a curable disease?" only one reply can be made by the student of recent statistics from the work of conscientious, honest operators who are as free to report their failures as their successes. One of the most remarkable records of the world is that of Dr. Joseph Eastman, of Indianapolis, Professor of Gynecology and Abdominal Surgery in the Central College of Physicians and Surgeons. In an address before the medical society of the State of New York, delivered January 26, 1897, he stated that he has performed 114 hysterectomies for cancer for the uterus *with 50 per cent. of cures.* This is based upon cases which have gone more than two years without any indication of a return of the disease.

Late figures from European operators give a percentage of ultimate recoveries almost as good. Hoffmeier declares 33 per cent. of his cures to be in perfect health four years after operation. Fritsch, of Bonn, gives 36 per cent. as his rate of established cures—patients examined five years after removal of cancer. Schauta, of Prague, claims 47 per cent. of complete recoveries two years after operation. Ohlshausen, of Halle, 47½ per cent. without recurrence in two years. The Dresden Klinick shows 58 per cent. without return at the end of two years. And Leopold has the astonishing record of 72 patients out of a total

of 76 as still alive and in absolute health after five and one-half years. In percentage, 95 per cent. wholly recovered.

Nothing can be more eloquent as a plea for early operation than figures such as these.

My own records are scarcely less startling to the man who imagines carcinomatous disease of the uterus to be inevitably fatal. The number of patients who have survived the operation more than three years, compared with the number of known recurrences, gives a rate of 87 per cent. of perfect recovery; while the total number of deaths, primary mortality (14) and probable recurrences (12) out of a total of 97, gives a rate of 73 per cent. in favor of operation. My figures are as follows:

Total number of hysterectomies	97
Cases that have lived more than five years	8
Cases that have lived more than three years	22

NOT INCLUDED IN ABOVE.

Cases that died from operation or very soon after	14
Cases of known recurrence	4
Cases of suspected recurrence (not verified)	8
Cases still within the danger period (some possibly recurring)	41

It will be noticed that these records show a primary mortality of 13 per cent., which is entirely too high. This excessive death-rate is easily explained. In my early enthusiasm I operated upon cases that should have been subjected to palliative treatment only—cases that I would not now think fit for hysterectomy. My later figures are much more favorable—the last 31 patients gave a mortality of only 6 per cent., which is about the average danger under recent careful methods of operating.

It will also be noted that in 47 instances the question of recurrence has not yet been determined. The reasons for this are two: (1) Some of these cases have passed out of observation, and have not yet been located. (2) Many of them have not yet passed the danger period. No special attempt is made to secure

reports until two years have elapsed, though if speedy return occurs the family physician is apt to report it. No patient is recorded "cured" until three years have passed.

Among the cases that have escaped observation subsequent to operation (and one included in the list of suspected recurrences) is one showing a marvelous convalescence. It was that of Mrs. M., an Indian woman, from Pawhuska, I. T., upon whom I operated at the Woman's Hospital, St. Louis, September 22, 1894. I used clamps. Twenty-two hours after operation she demanded that the clamps be removed, as they interfered with her sitting up in bed. A few moments later she arose, wrapped a blanket around her and walked from the ward down the hall into the operating room to see what was being done to the woman in an adjoining bed in whom she had become much interested! Next day (the third) she insisted upon sitting up in a rocking chair most of the day. On the fourth day she walked about the ward, and thereafter remained in bed only during the night. On the fifteenth day she walked four blocks to the railway station, and started for her home, nearly 500 miles away, sixty miles of the journey being by stage. She reached home in safety, and wrote me some days later that her only source of complaint was "some pain on seckshual intercoarse." I have never heard from her since, but believe recurrence has been the result, as I feared at the time of operation that the disease was too far advanced for cure.

Sometimes, however, we are deceived in the probability of return, as in this case:

March 12, 1894, I operated upon Mrs. W. E. H., sent to me by Dr. Rice, of Florida. Upon careful examination I found cancer of the cervix, far advanced. I told the patient that hysterectomy would not cure her, but would give her from eighteen months to three years of life instead of six to twelve without operation, with much less pain during the last days than would be her lot without the removal of the uterus. She chose operation. I made a most careful dissection, removing much of the peri-uterine tissues with the tubes and ovaries. A few

weeks ago she wrote me that her health was never better in her life.

Another case, much worse than this, and one which completely upsets my rule that "no radical operation should be made when there is extensive involvement of the bladder and rectum," is this:

Mrs. J. E. B., of South Mound, Kansas, patient of Dr. R. A. Brogan, of Osage Mission (St. Paul), was admitted to St. Joseph's Hospital, Kansas City, in October, 1893. I first made an abdominal section to remove the very extensive cancer of the uterus, vaginal wall and rectum. Upon exploring the pelvis from above I concluded the case to be wholly inoperable, and closed the wound without doing anything except ligating the ovarian and uterine vessels as near their points of origin as possible. October 31, upon the urgent request of the patient, I removed most of the pelvic contents, including about two inches of the posterior wall of the bladder and nearly four of the posterior vaginal wall and rectum. This patient made a slow recovery, with two or three attempts at closure of the huge hole in the rectum and bladder. She finally left the hospital, declining further operation to close the two openings, then quite small. The recto-vaginal fistula finally closed spontaneously, but the bladder still leaks. Otherwise, some months ago, she was reported as in good health, with no indications of recurrence.

One of my most satisfactory cases was so bad as to require the "combined operation," by the method often called "Lanphear's operation," described in the *New York Medical Record* of July 1, 1893.

Mrs. J. J. B., of Geneva, Ind., was admitted to the hospital in December, 1892. January 2, 1893, I operated, assisted by Dr. Chas. W. Adams, Professor of Gynecology in the University Medical College of Kansas City, who made the incision in the vagina, and dissected upward while I opened the abdomen above the pubis and tied off the broad ligaments as far as possible from the diseased tissues. Dr. Adams introduced the

clamps and I carefully adjusted them from above, cut the uterus and its adnexa out, packed the vagina with gauze and hastily closed the abdominal incision. By thus doing our work at the same time the operation occupied only a few moments, was attended by no bleeding and but little shock. The reason for such haste was the extremely precarious condition of the patient—it seemed that another five minutes under ether would have proved a fatal delay. A letter from this patient a month or two ago expresses the desire for an operation next year for the ventral hernia, which followed the hurried and therefore imperfect closure of the abdominal wound.

My oldest patient was Mrs. N. W., aged 65 years, operated upon at Baldwin, Kan., for Dr. H. C. Owen, October 17, 1894. This operation was made for far advanced cancer—an epithelioma primarily situated at the internal os; and merely palliative in object—the indications being the checking of sepsis and diminution of pain. Operation other than hysterectomy would have been chosen had the patient been in the hospital: but as she was in a small room in a country hotel with no nurse beside a farmer's daughter, I made the operation as the one least dangerous during convalescence. She lived about eight months in excellent health; then rapidly sank and died of cancer of the bowel.

The youngest patient on my list was Jennie B., of Kansas City, patient of Drs. T. B. Thrush and J. C. Maxson. She was 29 years of age at the time of the operation, November 16, 1893. She had epithelioma of cervix without discernable involvement of the uterine body; but her general condition was bad; she was emaciated, weighing only 110 pounds, though of large build. Operation and convalescence were uneventful. She is at the present time in perfect health, weighing 226 pounds, and is earning her living as a wash-woman. She had a large vesico-vaginal fistula after the operation, but under repeated curettage and stimulation with stick nitrate of silver Dr. Thrush succeeded in closing the opening without resorting to operative measures.

The one ventral hernia just mentioned and four cases of vesico-vaginal fistula, comprise all my post-operative complications.

I have never had vaginal hernia—so dreaded by earlier operators. Nor do I of late wait to suture the wound in the vagina and peritoneum; apposition is so perfect (as I have many times demonstrated upon the cadaver) as soon as the uterus is removed, that I simply pack the vagina lightly with antiseptic gauze, placing a little in the lower part of the wound for drainage.

My fourteen deaths were due to the following causes:

Shock	8
Peritonitis	1
Acute Sepsis	3
Hemorrhage	2
	14

The extremely favorable results in my work should be chiefly ascribed to the fact that many of my medical friends have been thoroughly impressed by a rule for many years reiterated to my private classes in operative surgery: "Every uterus which gives even a marked suspicion of malignancy should be removed." As a result of this teaching, most patients have been referred to me while in excellent shape for cure. Indeed, I have operated upon a number of women when there was nothing but a strong suspicion of malignancy; the miscroscope has determined true carcinoma in every case excepting one: extensive ulceration of the cervix, and a small, sloughing, submucous fibroma, with streptococcic and saprophytic infection—a case demanding hysterectomy, anyway.

As a result of my own experience, therefore, I cannot too strongly endorse the words of Dr. Ernest Walker, of New York (*Medical and Surgical Reporter*, April 17, 1897):

But a few days ago I took the histories of two women with cancer of the uterus too far advanced for any except palliative treatment. Both of these women had danger signals pointing to cancer of the uterus for months, and had consulted their physicians about these symptoms. In both instances the trouble had been ascribed to the menopause, and no examination had been

made until too late. The histories I obtained from these women do not lead me to believe that either of their physicians were ignorant men or that either failed to suspect the true state of affairs; yet both patients were allowed to go on for months with the old threadbare explanation of the menopause to account for every symptom, until the last hope of successful treatment was gone. Thus it is we too often fight against our own conviction of the truth, and, knowing that we may be mistaken in suspecting cancer, we hope we are, and temporize with danger instead of sifting the matter at once. We dillydally and talk of the menopause instead of regarding these signals of danger as something, which, if properly heeded, will save our patient from disaster. In conclusion, I would suggest that the profession attempt in every way to eradicate from the mind of the laity the idea that the menopause is a sufficient explanation of every symptom affecting the female pelvic organs at or about that period; just as they are gradually getting rid of the old and pernicious belief that catching cold "is responsible for puerperal fever and other septic troubles."

Eastman, in a late article (*Annals of Gynecology*, April, 1897), also earnestly points out the same danger. He says: "There are many facts in connection with vaginal hysterectomy with which the general practitioner should be fully conversant.

"Cancer of the uterus is often the outgrowth of prolonged localized irritation originating in old neglected, badly cicatrized lacerations. Vaginal hysterectomy, when made by an expert, is a means of saving the lives of women (fifty per cent.), who only a few years ago were destined to die the most horrible death, from a disease so loathsome that in their dying hours they felt compelled to isolate themselves from those near and dear loved ones whose fond caresses would have been such a comfort. The success or failure of the operation is determined by early or late diagnosis. A foolish but time-honored fancy is that "change of life" causes the bloody or watery discharge from the uterus and gives rise to pain and emaciation. We must wake up to the fact that a woman may be far advanced in cancer

of the uterus without having any pain, and with very little discharge, and we especially must impress the practitioners, and they their patients, that if they have anything but a symptomless cessation of the menstrual flow, the question of menopause must be disregarded and a scrutinizing examination made, to the end that the facts may be known and the blessings of science, of surgery and of sense be vouchsafed to womankind."

In cases deemed so far advanced as to render hysterectomy extremely hazardous, I cannot but urge a trial of parenchymatous injections of absolute alcohol. This plan of treatment for inoperable cancer suggested by Carl Schwalbe and O. Haase, of Nordhauson, Germany, has not (so far as I can discover), been tried in uterine malignant growths, though extremely gratifying results have been obtained by Kuh, of Chicago, and others in carcinoma elsewhere. I have lately been anxiously searching for a case too bad for radical cure by operation, yet not too near death, upon which to try the method. The plan I shall follow is this: Under chloroform, curette away all sloughing tissues under irrigation with strong solution of permanganate of potassium; pack cavity slightly with iodoform gauze to control bleeding; remove gauze on the third day, irrigate with 1 per cent. formal solution and inject 5 to 10 minims of alcohol into the diseased tissues. If not much pain follows, repeat every two or three days, rapidly increasing the amount to 30 minims at each injection; using absolute alcohol, and varying the site of injection. Particular attention is to be paid to the broad ligaments, as it will be absolutely necessary to have established the formation of new connective tissue with constriction and obliteration of most of the afferent as well as efferent vessels, the object being to produce a scirrhous contraction in the connective tissue and thereby cause fatty degeneration of the cancer cells in the lymphatics of the structures contiguous to the site of primary disease.

From observation of many cases, many of them seen too late for relief, and from the statistics of skillful operators, I have reached the conclusion that the attending physician should base

his advice to patients regarding operation upon the following rules:

RADICAL OPERATION IS INDICATED: 1. As soon as a diagnosis of carcinoma of the cervix is made—provided the disease is unquestionably not too far advanced for any possible benefit at the time of first examination.

2. Whenever there is a fungous growth upon the cervix (especially in a patient near the menopause) which persists in spite of treatment, even though there is no ulceration and but little tendency to spread. It is probably the papillary form of carcinoma cervicis (cauliflower cancer); and there is always involvement of the mucous membrane of the body, so that high amputation will not cure.

3. When there are one or more nodules in the mucous membrane of the cervix, which soon ulcerate and destroy the mucosa. Such trouble is almost invariably the nodular variety of carcinoma of the cervix.

4. When there is an infilatrate in or beneath the cervical mucous membrane, just within the os, which soon breaks down and destroys the cervix by erosion. It constitutes the variety known as cancer of the cervical mucous membrane (eating cancer), and may have progressed far before the os shows any marked change when viewed through the speculum.

5. When there is evidence of the existence of cancer of the parenchyma of the uterus (usually fibro-sarcoma), even if the cervix seems to be perfectly normal. Such cases are not rare: I have removed several such wombs.

6. Whenever a glandular endometritis becomes inveterate, showing a tendency to degenerate into a typical malignant adenoma—that is adenocarcinoma (grandular carcinoma or primary cancer of the mucous membrane of the uterine body)—at the menopause; as indicated by: (a) the appearance of irregular hemorrhages; (b) the presence of a serous, reddish, odorous discharge, and (c) paroxysmal pain.

7. In all cases where there is even a strong suspicion of malignant disease. In early operation lies safety. I have re-

moved a number of wombs on the mere suspicion of cancer as above noted, and the microscope has shown the justifiability of the operation in all but one case. I can quite agree with Pozzi that "it may even happen that as a last resort against persistent hemorrhage alone we are obliged to perform vaginal hysterectomy with only the diagnosis of probable cancer."

WHEN OPERATION IS NOT INDICATED.

Hysterectomy should not be performed under the following conditions:

1. Whenever the disease is so far advanced that the uterus is fixed in the pelvis.
2. Whenever it is certain there is extensive cancerous infiltrate in the broad ligament.
3. Whenever the cancer involves the bladder.

Implication of the posterior vaginal wall or even of the anterior part of the rectum is not necessarily a positive contraindication to operation. (In one of my cases just mentioned it was necessary to remove at least three inches of the vagina and some of the anterior wall of the rectum, an instance of primary carcinoma of the upper vagina spreading to the cervix; yet the woman is still alive at the end of four years.)

4. When the "cancerous cachexia" has become pronounced.
5. When the patient is too weak from repeated, exhausting hemorrhages.
6. Whenever the diagnosis of sarcomo of the uterus is quite certain. Such cases always recur after the removal and die quickly.

WHEN PALLIATIVE OPERATION SHOULD BE DONE.

Operations less severe than extirpation of the uterus, such as curettage, burning with Paquelin cautery, etc., are indicated frequently where cases are too advanced for the hope of cure; especially as follows:

1. When there is marked sepsis, removal of the sloughing mass with the sharp curette and the subsequent use of douches

of solution of permanganate of potash followed by insufflations of pyoktannin will greatly prolong life.

2. When there is excessive hemorrhage. In such cases curettage followed by cauterization and after treatment just mentioned will be of much benefit.

3. When pain is very severe. Even hysterectomy as a mere palliative measure is sometimes advisable, the pain being much less marked in recurring carcinoma in the pelvis.

TREATMENT OF ABORTION.

W. H. MONDAY, M. D.,
TERRELL.

Circumstances often afford the general practitioner in medicine, especially if he has an average practice and experience of several years, special advantages; such as giving close study to certain forms of disease in which he usually becomes interested, and eventually quite proficient in their diagnosis and treatment. As a general practitioner, it has been my fortune during the past years to come in contact with quite a number of abortions from various causes, but as it is not the purpose of this paper to discuss the various causes of the subject in question, suffice it to say, when this question, if carefully considered from a practical standpoint, one may not be surprised to find it occurring often. The great question of today among a large part of the American women is, how to prevent conception or how to alleviate its various embarrassments, pains and mortifications. Her environments and customs of dress, mode and style of living, all tend to rid her of that duty for which nature first intended her, to be a mother. As the intention of this paper is to consider the subject from a standpoint of treatment, I wish to say, the term abortion is usually applied to the expulsion of the ovum before the fourth month, at a time when the placenta is not yet differentiated from the rest of the chorium. Premature labor signifies the delivery of a fetus that has become viable. The word miscarriage is often applied to that period between the fourth and seventh month, yet at the same time, very little difference is called for considering the duties of the practitioner in his attention to these cases. It is an acknowledged fact that when a patient gets in the habit of aborting, it is a difficult matter to prevent the characteristic habit.

The first symptom of abortion that will engage the attention of the patient, and attendants, is pain of a labor-like charac-

ter; then begins hemorrhage which is called "show." Opiates with rest in bed is the first treatment indicated; if stomach is irritable, morphine and atropine may be given hypodermically until the therapeutic effect of the drug has been reached. Fluid extract of Black haw is very highly extolled by many. Hydrate-chloral, bromide potass. and other nerve sedatives may be given. Small doses of ergot with full doses of opiates are often resorted to. If pain and hemorrhage continue, and after a digital examination a softened os, with dilation, a continuous pain, after giving a fair trial of medication without relief, all treatment had just as well be suspended and let Dame Nature have the case for a while. The ovum will more than likely be expelled, perhaps with great pain and hemorrhage. The placenta will then engage the attendants attention; often it is small and pulpy and will not admit of removal by forceps.

The plan the writer almost always adopted is to be exceedingly careful as to aseptic treatment. Have all instruments and appliances sterilized, together with the operator's hands, towels, and dressings, place the patient in a Sims or dorsal position, then with plenty of iodoform gauze, with suitable application and dressing forceps introduce your speculum exercising care that no instruments or dressing touch anything that has not been well and thoroughly sterilized. You will then proceed to pack carefully the cavity of the womb, filling all parts from bottom to top, then continue the packing around the os till posterior, anterior and lateral cul-de-sac are well packed. Continue the packing till the vagina is well packed, then confine same in position by an aseptic pad and a T bandage. This is to remain at least twelve hours—if the work is done properly, it may remain longer—then the entire mass may be removed. Nearly always, the entire placenta will be found to come away with the packing. If not, then with a douche curette attached to a fountain syringe, with plenty of sterilized water, to which may be added a small quantity of carbolic acid say 1½ or 2 per cent. Suspend the syringe so as to have a gentle flow, place your patient in either of the above named

positions, so arranged as to have a good light, introduce a speculum, then the curette—one not too sharp is desirable, for a sharp curette inside the womb, in careless hands, may and often does do mischief, and in this instance is unnecessary—then turn on the water. As the curetting is going on the water is gently flowing and washing away all debris as it is detached. With a little care and caution, you can soon go over the entire surface, removing and washing away all that which should be carried away, leaving the endometrium in a clean and aseptic condition. Then by giving a small opiate, have the patient dried and put to bed in a quiet and darkened room. You will find her, in a short time, in a quiet rest—she will regain her usual amount of composure, and in a few days is able to be up again. But suppose you do not have such results? Suppose you have a hysterical case? Suppose you have the misfortune to get your patient infected; she has a chill, followed by fever, soreness in the abdominal region? Then it is admissible to go immediately about irrigating the endometrium again, with hot sterilized water, as before. Open the bowels gently with a saline purge, relieve pain with opiates, treat her on general principles for septicæmia, paying close attention to cleanliness, with rest in bed, careful and well selected regimen of diet, and more often than otherwise your patient will have cause to thank you for your kind and skillful treatment, and you will feel you have done a duty, notwithstanding modesty, perhaps, suggests to you to let nature have her way in expelling the secundines. The neglect of small details, which go to make up the sum total of a treatment, often bring about disastrous results.

I hope that the most of you will not consider the contents of this paper extremely elementary. But I cannot help feeling that in our search for strange and unusual morbid phenomena, we are apt to forget first principles. An occasional review of the field, and a comparison of experience, may be of value to all of us. After giving the case a clear diagnostic investigation, then prompted by the information thus gained, do a duty, falter not, do not even let the entreaties of the patient lead you astray.

MANAGEMENT OF GYNECOLOGICAL CASES BY THE COUNTRY PRACTITIONER.

J. M. INGE, M. D.,
DENTON.

It has long been the habit of many professors or teachers of gynecology to discourage the country physician in attempting to manage certain cases of gynecology, especially operative cases, saying this or that should not be attempted outside of an infirmary or hospital. Among them Mr. Tait wrote: "A woman who would submit to an operation outside of an infirmary is a fool for her pains." While the advantages to be obtained in a well regulated infirmary are fully appreciated as well as the superior skill of the experienced operators which is the result of more constant work—with every appliance at hand.

Still we find many men in small towns and in the country, who, by patient, hard work and perseverance as well as inventive genius born of necessity, have attained to just distinction and whose work stands as a monument to their skill and ability. Hundreds of women unable to pay so little as traveling expenses to a hospital are relieved sometimes of large fibroids or ovarian cystoma, lacerated perineum, chronic forms of endometritis. Pus tubes are removed and occasionally a Cæsarian section performed.

The countryman realizing the extreme responsibility of doing capital operations, while he cannot usually operate with that skill and promptness as experts who do such work almost daily, often make up in painstaking care and careful preparation, not only of patient but of himself and instruments as well. I do not refer to incompetent men who are pretending to do work for which they are sadly deficient, but to those who are students and well up in all technic and minutiæ necessary for the work of a gynecological surgeon.

Cases some distance from the attending physician or operator

often require different treatment or dressing than those which are more convenient or nearer at hand. As an example, gauze drainage is not so well suited after the first few hours for a wound not accessible for frequent dressing as a perforated rubber drainage tube. After the first two or three hours the gauze fills with the secretion and does not drain, becomes a source of infection and irritation. As Dr. Clark, of Baltimore, said, "Any material which is impregnated with chemicals sufficient to be the least value as a germicide, if left in contact with the peritoneum will produce greater irritation than a simple sterile body." On account of the chemical irritation of the iodoform or chemical used. This accords with my own comparatively limited experience. The country atmosphere and hygienic surroundings are particularly favorable as a rule for operative cases. Three of the largest ovarian cysts I have ever seen removed, one with adhesions, gave me very little more trouble than a simple amputation. One case had been an invalid for nine years, a subject of hystero-epilepsy—ovaries and tubes removed, troublesome adhesion of left and slight of right ovary, gave comparatively no trouble. A second visit not required of the surgeon, attending physician sending daily favorable reports. He removed stitches on tenth day by my instructions; recovery from operation uneventful. Several other laparotomies came under my observation, done in poorly constructed country houses, with apertures and crevices which admitted an abundance of dirt and dust, but somehow the results were all that could have reasonably been expected. One case of double ovariotomy, patient with heart so weak that we long hesitated as to whether we would risk the operation for fear of death on the table, being in a farm house, we pined for a master hand to guide the knife and a thoroughly aseptic operating room. But the responsibility was upon us. Under ether we removed the left cyst, probably thirty-five pounds in weight; stripping off cysts from points of adhesion, produced free bleeding; pulse suddenly became almost imperceptible, remained so in spite of nitro-glycerine, strychnia and ether, and heat to extremities.

Incision was hurriedly closed, as our hopes had fled. When placed in bed, and finally slightly rallied, a drainage tube was introduced on account of adhesions and hemorrhage. To our surprise the next day we found her better, and so continued to improve until recovered, and when sufficient strength was gained we opened the cavity and removed the right cyst, which was as large as the left, but with no adhesions, and with much less trouble from shock. The most difficult, especially operative cases, seldom fall in the hands of the man in provincial towns. He may do many operations successfully, including celiotomies, and may consider himself a clever surgeon, but in the most difficult cases he will hardly compare with the skilled laparotomist. There may be a few exceptions, but very few. I feel I have the right to speak thus of the operator in the provincial towns, as I belong to that class myself.

I will not consider at length the limitation of gynecological operations, but the fault of needless operations or mutilations do not lay exclusively at the door of country surgeons. The too frequent ablations of the uterus and appendages for pus tubes and peritubal abscess and procidencia by skilled operators during the last few years cannot be consistently called in question. A reputable gynecologist admits that he advised the removal of the ovaries as the only means of relief to be obtained from prolapsus, and that the case went into the hands of Dr. Mann, of Buffalo, who said it would be criminal to remove the ovaries, and curetted the uterus with result of complete and entire relief. Without notes, but from memory, I call to mind a case of tubal abscess relieved by incision through vaginal wall posterior to the cervix, and guided by finger of left hand opened abscess and drained. After several years the patient has had no untoward symptoms. The hot douche recommended by almost all the authorities in connection with the treatment of chronic inflammatory conditions of the uterus and appendages has a value not often over-estimated, but the method of using them with the ordinary fountain or bulb syringe with the common syringe pipe or tip accomplishes very little in my hands. The

full benefit of the hot douche can be obtained only by the use of a cone-shaped hard rubber vaginal plug or syringe tip that will prevent the water from coming in contact with the skin, the return flow passing back through the tube in the plug. By this method the water can be used at a higher temperature than can be comfortably borne on the skin. In cases of chronic catarrhal endometritis, especially when the uterus is immobile on account of inflammatory products and adhesions, the use of the hot douche properly used at a high temperature until tenderness is removed so that manipulation can be borne with safety, then dilatation, gradually increased at each treatment until sufficient for free drainage, added to this the use of wool tampons with subnitrate of bismuth after the method of Engleman, with the continued use of the hot douche every two or three days on the occasion of the regular treatment, and the proper use of massage, will often give relief without the use of the curette.

I find it almost impossible to have the patient to use even the hot douche properly at home. Used effectually by the physician every three days will accomplish more than used in a slipshod way at home twice per day. So I often have the patient to wear the wool tampon from one treatment to the next, and use the douche myself on the occasion of my regular visit. Practitioners accustomed to competent and trained nurses would hardly be successful in the country. There are so many details necessary to be carried out for the successful treatment that must be attended to by the physician in person in the country, or left undone.

In operative cases he must often spend several hours at the house in preparation of a room, patient and instruments, if he is successful, even in the case of the use of the curette—about the most useful instrument in the armamentarium of the gynecologist, if the diagnosis had been made properly, and used scientifically, and the most damaging when used unscientifically; and he must spare the time to personally boil his instruments and prepare his patient, and attend to almost every detail himself, and when he leaves instruct the mother or husband what

not to do, and return in time to do the particular things himself. If the country gynecologist is not energetic, courageous; is not durable, patient and inventive, he is a failure. If eminently successful throughout the tedious days and years allotted to him for professional work, "he has built a monument that would honor an angel to cover with the shadow of his wing."

A PREFERENCE FOR THE SUPRA-PUBIC OVER THE VAGINAL ROUTE.

JOSEPH MEYER, M. D.,

PARIS.

The trend of surgical thought and work along the lines of pelvic disease has taken a wide swing in recent years. The solid phalanx of surgeons that fought for the abdominal incision as the proper gateway of approach to this secret citadel in which lurked an enemy to health and happy womanhood, has been decimated, until I feel constrained to enter the lists (not as did the classic plumed knight), but rather to hold up the hands of the undaunted few defenders who remain prominent, among whom are my personal friends Price and McMurtry. I would not be understood to intimate a want of confidence in the ultimate triumph of a practice that is not only *surgical*, but based upon conscientious conviction, enforced by pains-taking experience and by results that have revolutionized regional surgery, that for a time almost crazed the female element of society, that swelled the ranks of abdominal surgeons and multiplied statistics of operated cases until the stigma that blurs the surgical record and furnishes object lessons for opposing argument may be traced (measurably at least) to results that ought never to have followed, and to cases that had better have been left untouched.

The record of the last twenty years is phenomenal in the annals of surgery. A more fertile field for criticism has never been surveyed. An arena dazzled by more brilliant results has never been approached. But the era of professional boast of progress and achievement that justly characterized the dawn and sunlight of antisepsis has culminated in one of encounter of methods more earnest and honest and more enduring than the fistic fight for the championship belt, and pregnant with results more telling upon coming ages than the result of existing hostilities between

the Greeks and Turks—the clash of whose arms even now electrify our wives and enlist the sympathies of the civilized world.

It is no more sentimental to be a defender of the healthy uterus than it is surgical to remove it.

I frown upon the temerity of that surgeon who would make ease of accomplishment stay his scalpel at the hazard of post-operative results, whose prevention were at its very point, or to determine for him the route by which he would approach the pathological nidus.

I disclaim personalities or invidious parallels. No one individual's experience alone can formulate a rule in surgery or abrogate basic principles. He who would scan the field of any surgical procedure and hope for accurate conclusion must stand upon an eminence above personal prejudice or even national jealousy. When I raise my voice in favor of supra-pubic section I fail to catch its echo amid the din of voices calling out for the vaginal route.

It is a marked characteristic of our age to "prove all things," let it be also to "hold fast to that which is good." Although the vaginal route is one of the oldest of surgical operations (limited), it may also be said to be one of the newest, and under the safeguards of modern asepsis and technique has aggressively extended its scope upward through and above the pelvis, until its tabulated results, numbering cases by the hundreds, call up similar lists of the laparotomies of the past decade that form the basis of comparison of method and result.

If a comparison of results is necessary to determine method or route, then I insist that a due consideration must be given the time-element (post-operative, I mean).

Neither can I emphasize this too strongly: The hernias, fistulas, neuroses and failures chargeable to the one are an open page to the surgeon, and to society, too, because of length of time (post-operative).

The ill effects and failures chargeable to the other are as yet known but in part, and for the very same reason—post-operative time.

The failures to cure and the imperfect results of the earlier history of the old way, have not only led to fewer failures and perfected methods in the one, but also have paved the way and trained the operator for excellent results by either route.

I need not here recite the arguments advanced in support of the one or the other route, as they are familiar to all, either from the animated discussions of their respective advocates in our Associations, or from the pages of the medical press. Suffice it to say there seems to be a prospective end to discussion by virtue of numerical authority upon the side of the vaginal route, but the pioneer work performed, the splendid results achieved and the possibilities still in store for the supra-pubic incision, have made an indelible imprint upon surgical thought and page that stamps it as an approved surgical approach for all coming years, reflecting credit upon the host of surgeons whose faithful and fruitful labors in late years have perfected it; honor upon the brilliant few of earlier years who practiced it, and lustre about the name of my honored kinsman, McDowell, who first dared to do it at the dawn of a century so replete with scientific and surgical triumphs, that I refer with pardonable pride (I trust) to his legacy, which I share in common with a grateful profession, enriched by the joyful acclaim of gratitude from an unnumbered chorus of happy women whose lengthened lives, disenthralled from invalidism and pain, attest his blessed heritage.

I briefly report two hitherto unreported cases selected as types of chronic and acute pelvic inflammatory troubles, that necessitate operative interference as the only means of cure, and each affording a sufficient post-operative time-history with which to estimate method:

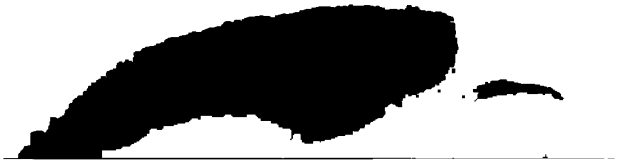
1. Mrs. A. W., aged 32; mother of two children; an invalid for twelve years, and bedridden for the last four and one-half of the twelve years; accepted operation for relief April 9, 1892. I operated through a median supra-pubic incision three inches in length and removed both appendages. The right ovary was [illegible] monocyst about as large as a billiard ball. The left was cir- [illegible] and had to be enucleated from a complicated mass of ex-

udate and old and strong adhesions. I closed the incision with silkworm gut suture without drainage.

2. Mrs. J. T. D., age 33; four children and ill from date of birth of her last child in July, 1892. From which time on to the day of operation, March 31, 1893, her life had been jeopardized by an occasional menace from tubal leakage, protected however by plastic products that shut off the peritoneal cavity from a pelvis no longer large enough to contain its pathological mass now rising to a level with the iliac crests. Through an eight inch median incision, I succeded in removing the necrotic remains of the annexea; cleaned out the large puddle of pus; freed adhesions from bowel, bladder and pelvic wall; placed a glass drain tube and sutured the incision as in the other case.

Both made good recoveries and both are well today without hernia fistula or other post-operative pest.

Had I reported these cases soon after operation either would have received more minute description and more external notice which today would be superfluous because of the many similar experiences now common to us all. I need not extend the list from my own work. I have selected these because they are typical cases and for the further reason that I have a personal knowledge of their past and present condition, and because neither has needed or undergone any subsequent operation, either at my hands or another's; and finally, because both these ladies are still well and are assiduously pursuing their domestic avocations in their respective homes with their husbands and children, and I speak candidly when I say, happily too, for I believe contentment dwells with them there.



HYSTERECTOMY.—REPORT OF CASES.

B. F. KINGSLEY, M. D.,
SAN ANTONIO.

When an operation becomes so common and has been given so much careful thought as hysterectomy, it ceases to have that interest to the average physician that it did as an innovation in surgery, unless there should attach to the case some unusual history; something of uncommon interest in the operation, or its results. Believing that I have a few such cases, I am prompted to place on record the following:

Case No. 1.—Miss K.; age 18; aborted September 3, 1894, between third and fourth months, two or three weeks after the criminal induction thereof; I saw her first on September 9, and found her with temperature 101 F.; pulse quick and full, and great pain and tenderness over lower abdomen; she was curetted, washed and packed twice in the next week with the effect to cause a slight reduction in fever.

These symptoms continued without incident until September 29, when an abdominal section was made; extensive adhesions in and around both tubes; the ovary and tube on the left side were successfully removed, but the one on the right contained an abscess partly within the wall of the uterus and partly in the tube, the walls of which would not hold a ligature, cutting through leaving a large hole in the uterus, through which pus ran freely. The womb was large and soft, and infiltrated with pus. This predicament left us no alternative but hysterectomy, which was accomplished without trouble and the patient made a prompt and complete recovery, and is now able to ride a bicycle, and works as before, and looks better. This operation was done at the patient's home amid very unsafe surroundings.

Case No. 2.—Mrs. G.; age 39; was brought to my private hospital January 14, 1895, from an adjoining town. The most perfect picture of a living skeleton I think I ever saw. Her

pulse barely perceptible and very irregular, and occasional attacks of dyspnœa. I learned that she had come to Texas from Missouri four years before for lung trouble, having had repeated hemorrhages; she had had only one in Texas; physical examination of her chest revealed a dry cavity in apex of right lung. That she had been confined on November 2, 1894, with her tenth child, followed by fever till I saw her. Eight years previously she had been confined to her bed three months following a confinement, from which she dated her pelvic trouble. I found a deep bilateral laceration of cervix, and it was filled with polypoid growths. A copious muco-purulent discharge, great tenderness in the vault, especially to the left, and the womb fixed. There was a large tumor on the left side, the outlines of which could be distinctly seen, extending from the pubis to nearly the border of the ribs, and exquisitely tender. After five days meditation an operation was decided upon. The abdomen was opened on January 19, the appendages were found free on right side and removed, the uterine artery tied, an opening made into the vagina in front and behind and the reverse course pursued on the left side, according to the method suggested by Howard Kelly. On the left the womb was tied off from below upward, and the adherent and suppurating masses from which streamed quantities of pus were left intact, after washing carefully with hot normal salt solution and the surface and interstices as far as possible covered with iodoform gauze, projecting into the vagina and out the abdominal wound. She began to improve at once, and soon the attacks of dyspnœa, which occurred several times daily and for which she was given digitalis and large doses of strychnia, improved; her convalescence was rapid, and six months later she paid me a visit on her way north, the picture of health. At last accounts she was well.

Case No. 3., Mrs. Y., age 41; one child, boy, age 14, prolonged and instrumental labor, since which time has had headaches increasing, for which finally she traveled and was treated more or less constantly. Some eight or ten years after her confinement a deep bilateral laceration of cervix was discovered and

repaired, giving her temporary relief. A few months after this operation she had a pelvic inflammation which resulted in a pelvic abscess which was opened in the posterior cul-de-sac. This abscess cavity and sinus refused to heal and she was treated at home and in the Woman's Hospital, New York, and elsewhere a year before it closed; her headaches continued to increase, although she no longer suffered from any pelvic trouble that she was conscious of. She became finally a complete invalid from these headaches, was confined to her room and bed most of the time and was compelled to use morphine, whiskey and other drugs more or less constantly to get any relief. She finally came under my systematic care. In January, 1895, I found the womb perfectly fixed, and some tenderness on deep pressure; she was a short, thick-set woman with thick, tense abdominal walls; this was all I could make out, but this was enough to establish the fact to my mind that this was a probable cause of her reflex pains. Careful examination enabled me to exclude other organs, except possibly the brain. I did not therefore hesitate to advance the opinion that the headaches were of pelvic origin and that nothing short of a hysterectomy would relieve them. In order to be more certain of my ground I obtained the opinion of several of the ablest gynecologists in the country, all of whom, except two, agreed with me. Accordingly, on March 25, the abdomen was opened, the right tube and ovary were dug up—if I may use this expression; with great difficulty and removed, the tube was at least an inch in diameter and filled with pus; the left but little smaller, but containing no pus. This also was removed, and the womb, not very much enlarged, but very hard, followed; time two and one-half hours. From the moment she became conscious after the operation she said her headaches were gone; and for two weeks until she was nearly ready to sit up, she never ceased to wonder at her great relief. At this time the nurse heard her moaning in the night, and upon going to her found her right side paralyzed and she was completely aphasic, but could understand what was said to her. In the course of twelve hours she became unconscious and the

paralysis, both motior and sensory, was complete; there was partial ptosis of left eye-lid, and an ophthalmic examination showed the disk in left eye somewhat cloudy. It was determined to open the skull on the left side, which was done by Dr. Robt. F. Moss. There was no pulsation of the dura, which was incised, nor was there anything discovered to account for her condition. The wound was closed with the confession that we were baffled. She died on April 19, a week after the last operation and over three weeks after the hysterectomy.

An autopsy revealed a perfect condition in the pelvis, the vaginal vault was closed as perfectly and smoothly as though there had never been any womb there, and the intestine lying over it attached by a small segment. On removing the skull cap a diffuse blood clot was seen covering the entire right hemisphere, quite thick and dense, posteriorly. There was no necessity for searching further for an explanation of the situation. The arachnoid was adherent at two or three small points along the border of the great longitudinal sinus. It is interesting to speculate on what connection, if any, the first operation had to the cerebral hemorrhage; second, that the hemorrhage was on the side of the paralysis which rather goes to disprove some of our theories of cerebral localization. The peculiar bearings of this interesting case I leave for each one to settle for himself and pass on to case No. 4.

Miss R., age 20, always suffered from dysmenorrhœa and for several months from excessive flow, but never any pain only near menstrual period. For this condition she was in the course of three years curetted and packed several times, which only checked the hemorrhage for the time. In the latter part of April, 1896, a distinct tumor was discovered on the left side, which had made its appearance and grown rapidly long after she had had any treatment. She was now having a light fever continuously, was profoundly anemic and very weak; and operation was advised and done May 2, 1896; the right tube and ovary was free and normal in size and appearance, but wedged against the pelvic wall by pressure of the tumor from the oppo-

site side. On the left was a tumor filling the pelvic and abdominal cavities, and extending nearly to border of ribs, to which intestines were adherent. The tumor was so dense and vascular as to remind one of a soft myoma, which I thought it was until the womb was removed. I found it impossible to free the tumor from its bed from above, so removed the adnexa on the right, divided the broad ligament between sutures, opened the vault before and behind, and, as on two or three former occasions, reversed the order, working from below upward on the left side. When I came to the tube its wall ruptured, letting a few drops of pus escape. It was now for the first time that the true nature of the tumor became apparent. The rent was seized with forceps to prevent further escape of pus, and the tumor en masse dissected out carefully. Great care was necessary to avoid the ureter, as the mass lay over its entire course. Iodoform gauze tampon used for drain. The abdominal wound closed, examination of tumor showed its walls to be about one-quarter of an inch thick, and very vascular externally. Some five days after the operation a copious watery discharge began from the vagina. This kept up until the middle of September, with only an interval of two or three days. The amount of water was enormous; was neutral in reaction; specific gravity 1005, and odorless until after standing a number of hours, when a slight urinous odor developed. The quantity of urine passed from the bladder was normal in quantity and quality. About the middle of September it ceased altogether, and thereafter for three or four months violent paroxysms of pains occurred at about the regular menstrual periods over the right kidney, accompanied with fever and purulent urine. This was remedied by hypodermics of morphia and salol and hyoscayamus. For the last five months she has been entirely free from any trouble, steadily gaining in color, flesh and strength, and is now feeling better than for several years. Interesting points in this case were the freedom from pain throughout her sickness before and after the operation, except at the menstrual period, and no vaginal nor abdominal tenderness; the rapid development of an

enormous pyosalpinx; the copious vaginal discharge continued for months, which could come only from a wounded ureter, and its final spontaneous closure.

From a study of these cases the following conclusions seem to be justified: (1) In pus cases we may find the womb normal and the pus confined to one side, the other remaining also normal, or we may have both tubes and womb completely septic, and we must therefore not enter the abdomen with a preconceived determination to do a certain operation, but with a view of doing what circumstances demand. If we have a young woman or married woman without children it may be advisable to save one tube and ovary if possible, even at the expense of a second operation later. (2) That in all pus cases we are bound to have displacement and adhesions, and the tissues involved irreparably damaged. It is, hence, absurd to do these operations per vaginam, because the womb is fixed, the relations of the part is changed, necessitating blind surgery, and leaving behind diseased tissues, certain to give rise to future trouble. (3) The strange and incomprehensible reflex complications which many times accompany and follow pelvic disease; and (4), that in cases of sepsis following abortion or in the puerperum, the safest time to operate is after a few weeks rather than immediately. And lastly, I wish to acknowledge the great assistance given me in these cases by Drs. F. Paschal, F. M. Hicks, R. E. Moss and my sister, Dr. Josephine Kingsley.

SECTION ON OPHTHALMOLOGY AND OTOLOGY.

REPORT OF CHAIRMAN,

VARD H. HULEN, A. M., M. D.,

GALVESTON.

As Chairman of this Section, it gives me pleasure to acknowledge the valuable assistance of the Secretary and hearty co-operation of our colleagues which enables me to promise you an excellent list of papers from many of the most prominent and efficient men in the faculty of Texas. It has been our aim to make the contributions equally as interesting, instructive and beneficial to the general practitioner as to those limiting their work to diseases of the eye, ear, nose and throat.

As the time allotted to this Section is usually very limited, I shall proceed to report briefly some of the advances made in ophthalmology, etc., during the past year.

At the date of the last meeting of the Association but little had been accomplished in our special field by the use of the X-rays. It was expected that they would materially aid us in locating foreign bodies in the eye, which expectation has been fully realized; during the past year many cases have been reported of foreign bodies exactly located in the eye by aid of the fluorscope and their successful removal thereby facilitated.

It was sincerely hoped that the X-rays would be of assistance in making a correct diagnosis of the condition of the nasal accessory sinuses, but so far we have been disappointed in this direction.

Lately Emil Bock of Austria has made an ingenious suggestion as to the use of the Roentgen rays in those whose vision is [illegible] s of the refractive media. And [illegible] bility and usefulness of his idea.

Although no permanent vision can be restored, yet unimpaired optic nerves can be made to perceive impressions made with some material impervious to the X-rays upon substances through which the rays will pass. By this means blind persons who have previously had use of their eyes can be instructed (and entertained) and the knowledge thus imparted might be of material use in the recognition and identification of documents, persons, etc.

Fukala, in his recent book on the cure of excessive myopia, goes exhaustively into the subject of the surgical treatment by removal of the crystalline lens. This operation has now been done several hundred times, mostly by European surgeons, and their testimony is strongly in its favor. The best method appears to be discission with subsequent extraction. The immediate improvement in the vision has been most satisfactory, the progress of the myopia has been checked, and Fukala considers the operation almost totally safe.

Jaboulay now has a record of six cases of exophthalmic goitre in which section of the cervical sympathetic nerve has been performed with excellent results in all. The exophthalmus was immediately and very greatly improved, the tachycardia was benefited in less degree, but all the symptoms were much relieved, thus the theory was confirmed that this disease is due to permanent excitation of the vaso-dilating fibers of the cervical sympathetic. When the exophthalmus dominates the sympathetic should be divided between the middle and superior ganglia; but if the goitre is the most troublesome feature the section should be made below the middle ganglion.

Greef reports fifty-two cases of genuine conjunctival diphtheria treated with antitoxine with gratifying results, there being thirty-seven recoveries; death occurred in but two of the cases.

Gutmann concludes, after comparing sixteen cases of diphtheria followed by paralysis of accommodation treated with antitoxine with thirty-five cases in which antitoxine was not used, that antitoxine has no influence on the duration of the paralysis.

From the report of five hundred and nineteen cases of albuminuric retinitis collected by Belt, it was found that seventy-two per cent. of these cases die within a year, ninety per cent. within two years, and but nine per cent. live more than two years.

The experience of many of our very best ophthalmic surgeons has been against the Foerster method of maturing cataracts. Weeks does simple extraction as soon as the impairment of vision becomes a serious detriment; in his paper he reports twenty-five cases of immature cataracts thus treated with excellent results.

As statistics have showed a great reduction in mortality from the practice of antisepsis in the various operations of general surgery, it is more than disappointing to find, from the statistics collected by Wilson, in ten thousand cases of cataract extraction done under strict antisepsis that the average loss is 7.16 per cent., but little or no better than before the practice of antisepsis in ophthalmology.

During the past year many valuable articles have been added to our literature on the ocular muscles. More advancements and fewer tenotomies are recommended. Landolt calls attention to the fact that measurements of the ocular movements and inspection of the muscles during the operation have showed that in convergent strabismus both external recti muscles, and in divergent strabismus both internal recti have grown weaker, probably for want of proper use. Hence, strengthening operations on the weakened muscles are indicated, in place of weakening the healthy muscles to correct deviations. The effect of operations on the muscles cannot be certainly predicted, because the center of rotation of the eyeball is not a fixed point, and because of the presence of connective tissue "check ligaments" which follow the course of the muscles, the action of which is interfered with by all operations. The subject of muscles remains a promising field for future work.

[illegible] long been the ophthalmologist's desire to be able to re-[illegible]ht to eyes rendered useless by hopeless opacities of the

cornea. Heretofore we have looked for aid by some manner of transplantation, but after reading the invariably negative results of the experiments of Chwalynski and Schimarowski with a large number of corneal transplantations done upon animals, we lose hope of success with this operation. These experimenters conclude that nothing can be expected in the future from such procedures.

The comparative value of the different mydriatics is still discussed. Mayo after a comparative trial of homatropine and atropine as paralyzers of accommodation concludes that atropine fails to reveal any error of refraction which homatropine had not already uncovered. Scopalamine seems preferable to atropine in all cases where prolonged paralysis of accommodation is not desired. Murrell in refractive work finds scopalamine hydro chlorate in the strength of a $\frac{1}{10}$ of one per cent. solution a satisfactory cycloplegic, one drop of this solution is usually sufficient, paralysis being complete in an hour, the effect not lasting longer than seventy-two hours.

Rogers reports a case of acute glaucoma in both eyes caused by the use of $\frac{1}{50}$ gr. homatropine with $\frac{1}{50}$ gr. cocaine in a patient 41 years old for testing her refraction. Again the fact is emphasized that one always takes chances of producing glaucoma when using mydriatics in persons over 40 years of age.

Eucaine has proven to be a valuable addition to our pharmacopœa. It is an excellent local anæsthetic but it will not supplant cocaine for our special use. It is quite irritating when instilled into the eye, and the pain is considerable even from the use of very weak solutions. In the eye it is to be preferred to cocaine only when we wish especially to avoid the dilatation of the pupil or where there may be an idiosyncracy concerning cocaine. In the nose and throat eucaine can be satisfactorily used in the place of cocaine excepting when the ischæmic effect is desired. Eucaine is cheaper, there is less danger from the toxic effects of the drug and it is more stable in solution. It has been recommended in atrophic rhinitis on rational grounds. One

case of temporary amblyopia has been reported from the use of eucaine in the nose.

Alt reports a case of complete but temporary blindness from descending neuro-retinitis following the use of the galvano-cautery in the treatment of nasal obstruction.

Vansant has made a bacteriological examination of the nasal mucus in one hundred cases of chronic nasal discharge. None of the cases were suffering from any acute febrile affection, being the usual walking cases seen in the office and clinic. Yet in twenty-six of these patients diphtheria bacilli were found, and in three others bacilli greatly resembling those of diphtheria, and in over fifty others staphylococci were discovered. This at least shows the importance of disinfecting the nasal cavities always before operating on the eye, nose or throat.

Woden has carried out the idea of the antitoxin treatment in a case of acute supurative otitis media complicated by mastoiditis. He found numerous streptococci in the pus from the ear, and after injecting twenty cubic centimeters of antistreptococcus serum the bacilli rapidly disappeared from the discharge, and all symptoms were ameliorated, the patient making a perfect recovery and an operation was avoided. We may hear more of this treatment in the next twelve months.

Garnault states that when deafness is due to some disturbance in the transmitting apparatus it can be cured by an operation consisting of excision of the tympanic membrane, removal of the malleus and incus and mobilization of the stapes performed through the mastoid. This operation, as performed through the external auditory canal, is now abandoned by many of the best aural surgeons, the result being unsatisfactory.

Direct laryngoscopy has received much attention of late, especially at the hands of Kirstein. It offers decided advantages when it can be employed, especially in surgery of the larynx, but its application can be made in but comparatively few cases.

Now a few words concerning a little work done in a field where so much is needed, and this fragmentary report is ended. The ghastly appearance of almost every person who has had an

eye enucleated, although it has been replaced by an artificial one, is an eloquent rebuke to the present state of this part of eye surgery. The manufacturers of artificial eyes have reached perfection almost in imitating the natural eye, but the surgeon leaves the socket far from a perfect one after enucleation for the reception of the artificial eye, hence the cosmetic effect is most unsatisfactory in the majority of the cases. Thomas H. Bickerton read an elaborate paper before the British Medical Association on "The advantages of Mules' operation of evisceration with insertion of artificial vitreous over enucleation of the eyeball." In his paper he endorses every claim for Mules' operation—one which, though more difficult to perform, is equally safe as enucleation, leaves the patient with the healthy part of the eye undisturbed, preserves the power of movement, and retains for him his natural appearance. He reports a large number of cases to justify these statements. Other surgeons have also reported favorably on this operation, while there are those who condemn it absolutely. As this is not a new operation by any means the determination of its proper place in eye surgery should not be long deferred.

Belt reports a few cases where after enucleation he has filled out the cavity with sponge with some success in improving the condition for the reception of an artificial eye.

These procedures are apparently in the right direction. They should be perfected, or, if necessary, entirely new operations devised whereby we opthalmologists shall spare ourselves the embarrassment caused by the ever reproachful gaze of a badly fitting glass eye.

OPTIC NEURITIS.

R. H. CHILTON, M. D.,
DALLAS.

The study of papillitis is so intimately connected with brain diseases, a thorough knowledge of the blood supply is imperatively necessary to a correct understanding of the cause or causes that produce it. The frequency of this disease, and the fact that often but little or no injury to the sight is present in the beginning of the trouble, calls for an opthalmoscopic examination in all troubles of the eye. The intimate association of papillitis with many brain affections, makes it vitally important to look for papillitis in all forms of brain disease or mental aberration.

The blood supply is derived from the ophthalmic branch of the internal corotid. The arteria centralis and the ciliary arteries all leave the ophthalmic branch just after its exit from the "Foramen Opticum." The central retinal branch enters the optic nerve near the "Foramen," and the short ciliary branches course along the nerve to the eye, entering and being distributed around the disc. Another fact necessary to be remembered is that serum may separate the nerve fibers and sheath, causing a space between them. This space is continuous with subarachnoid space around the brain and in front with the lymphatic spaces in the optic papilla. The discussion of papillitis also necessitates a discussion of choked disc.

Gowns says the distinction between optic neuritis and choked disc is one of degree and not of cause. Fick says that choked disc is probably due to inflammatory diseases of the brain descending along the nerve sheath, but describes the disease as an œdema of the disc. I am not willing to abandon the idea of true œdema in these being the cause of the swelling in some few cases, at least, I have seen a very limited number of cases that subsided under active treatment which could not have been due

to any inflammation. However, these were not so intensely swollen as are the ordinarily described choked disc.

Authors now classify all cases of optic neuritis and choked disc, as papillitis. While this simplifies the study of these troubles, there is yet much to be gained by the careful consideration of the optic papilla.

Gowns says that optic neuritis may result from various diseases of the brain, but its most frequent cause is from tumor of the brain, and a considerable degree of neuritis is rarely due to any other cause. If this be true, then many cases which have recovered, and in which we see the results of papillitis, the tumor could not have been other than syphilitic gummata, because other tumors of the brain rarely get well. I am disposed to believe that a considerable number of cases of papillitis exist without brain tumor, and possibly without cerebritis, because a number of such cases are found in which no brain symptoms exist, yet make fair recoveries. Possibly these are due to septic poison or embolism at this point, following endocarditis.

According to Fick, albuminuric retinitis may be shown by a true papillitis, and not the ordinary symptoms of this disease. Fick also says, there are cases of "Neuritis Opticum" which not even a cold, or such an intangible cause can be detected.

De Schweinitz says: "The many varieties of papillitis, which occur independently of intra-cranial disease, indicate that the papilla is a structure prone to be inflamed." From all the cases I have seen, I conclude that as many and probably more cases of papillitis occur from orbital, septic, reflex and unknown causes as from brain disease. It is generally believed that mechanical impediment has nothing to do in the production of this disease. There are undoubtedly cases of reflex origin, and possibly later investigation will show that disease of the nasal membrane and ethmoidal region will play a greater part in the production of this disease than is at present known. I am not certain but that the situation of the disc as regards light (this being the point of first exposure after leaving the brain), may have something to do in the production of these cases, the light acting

as an exciting cause on already irritated nerves. In papillitis, from orbital septic disease, or embolism of the vessels of the orbit, the disease is usually unilateral. It is difficult to affirm that a papillitis really does or does not exist in cases of œdema, or hyperæmia of the disc.

I have recently seen a case which I diagnosed an œdema, and I am certain I was correct. Under active diaphoretic and alterative treatment the œdema passed away. After the complete disappearance of the œdema, the vision rose about one-third and was normal. Yet there remained evidence of change, especially in the tissues along the blood vessels in the disc. This was evidenced by remaining white lines along the course of the vessels, which was doubtless a plastic exudate into the nerve fibre spaces.

We occasionally see cases which have no inflammation of the disc, and no history of brain disease, yet with a slow progressive atrophy of the nerve, with all the evidence of a former inflammation in the optic nerve without involving the retina. Another probable cause of some of these cases is traumatism. This may be through concussion on an already irritated nerve, producing a genuine papillitis.

Again we find cases of albuminuric retinitis in which the disc alone suffers from papillitis. If not, there is only a slight extension of the inflammation into the retina. In a number of cases that I have examined, of albuminuric retinitis, nothing could be seen of any present or former retinal trouble, but still the vision was gradually becoming impaired and evidence of tissue change in progress in the parts, as in the case of acute œdema before referred to. What effect the albuminuric poison can have in producing any change without inflammation, I cannot tell, but presume not much. If it does, then other nerves of the body would likewise suffer, especially would this be true of the nerves of special sense.

From the many causes here enumerated that probably produce papillitis, it is readily seen that this disease is no certain index of any special brain lesion. While we may expect to find some

lesion of the brain, the diagnosis must be made as much by general symptoms as by existing papillitis, and together we have a basis for a conclusion. It is impossible to distinguish at all times between a genuine papillitis and a hyperæmia. In fact a persistent hyperæmia of the disc would likely be followed by the same tissue change in the nerve fibres as if acutely inflamed. The result of either is a genuine atrophy.

In many cases of brain disease we find an œdema of the disc. This may be the beginning of a papillitis, and many subside without becoming a true inflammation, yet such change would indicate about the same brain trouble that papillitis would. Such serous effusion may be the cause of a true papillitis if a predisposition exist.

The effect of septic disease of the brain is shown in a papillitis and may occur in any disease where septic infection exists. A recent case coming under my observation from septic brain trouble was at first manifested in an intense hyperæmia. Then followed an edema of the nasal side, so much as to obscure the disc's inner half, later by evidence of a hemorrhagic papillitis. In many cases the cause is shrouded in mystery, unless due to eye strain.

In 1891 I was called to see a woman who had been confined five weeks previous. An examination showed right eye normal, but complete loss of vision in the left. I found it to be a recent papillitis. Vision had been fairly good till within a few hours before the examination, and the symptoms all indicated a recent attack. The disc was so swollen the outlines were imperceptible. Under treatment by pilocarpine and purgatives she recovered good sight. A few weeks later, I found vision to be normal with the aid of a correcting glass. She was hyperopic and astigmatic. In 1893 I again examined the eye and found it in good condition save the refractive error, and with correcting lens the sight was good. On the 19th of this month she consulted me, and I find her to be suffering again from optic neuritis. She accidentally discovered the trouble, as several weeks previously she had lost her correcting lenses, and had been at work which

produced the eye trouble. I found her blind in the left eye. Up to this date she has improved rapidly again. No evidence of brain, orbital or septic disease can be found. In the first attack I suspected a septic trouble, though no other evidence was present. In this attack she seemed in perfect health, save a little choreaic trouble, which is relieved by glasses. I find absolutely no cause for this case save eye strain. Before the first attack she read while in the recumbent posture, and in this one had over-worked the eye—in both attacks without the correcting lens. I do not now believe the first attack was due to septic disease.

The last point for me to consider is localization. It is of vital importance to determine the cause producing papillitis if due to brain disease. It is not always possible, but if each case is considered with other symptoms, a rational idea of locality is probable. This must be done by studying the conditions of all of the nerves of special sense, as well as the motor and sensory nerves of the brain, especially is the motor ocular of value in these cases. By finding the localities exempt we can often locate disease.

The treatment is: first, if possible, to remove the cause. In the beginning of mild cases much can be accomplished by active purgation and the use of diaphoretics. The best treatment, I think, is pilocarpine hypodermically sufficient to produce free diaphoresis. The use of the same remedy locally may amount to something. Blood letting accomplishes nothing as far as I have seen. Alteratives can be used, but are too slow in their action to effect much. I have stated in this paper that eye strain may be a probable cause in the production of edema and papillitis. So far as I am informed, no one has ever attributed it to this cause. While I have no positive evidence of this fact, yet the two cases I have previously referred to, tend to confirm my belief in this theory.

ANTISEPTIC AND PROPHYLACTIC TECHNIQUE OF CATARACT OPERATION.

J. ALOYSUIS MULLEN, M. D.,
HOUSTON.

In this paper there is no desire to enter into the details of the surgical side of cataract operation, but merely to point out the necessary antiseptic and prophylactic measures absolutely essential in the preparation of the patient before and after operation to insure non-infection, primary union and good vision. Of course, it goes without saying, that the operator should first acquaint himself with the presence of cataract, and further with the actinic changes of the retina as evidenced by light, perception and projection.

The history of the patient should reveal the past and present physical condition as to diseases of the circulatory and respiratory systems, the liver and kidneys.

A functional examination of the heart should also be carefully made in regard to compensatory powers, and vicarious heart sounds studied for any light they may throw upon the general nutrition, etc. The arteries must always be felt for any calcareous changes possibly present, in order to prevent or guard against probable primary or secondary hemorrhage in the eye during or after the cataract operation.

The elastic and inflatory powers of the lungs may be casually observed for such diseases as emphysema, chronic bronchitis, asthma and hay fever, to guard against congestion and expiratory explosions after the corneal section has been made, thereby preventing separation of the lips of the wound by coughing, sneezing, etc., delaying primary union of the parts and minimizing the danger of extrusion of the media that would very likely follow excessive and sudden tension thrown upon the eyeball whose anterior surface lacks support in one-third of its circumference.

Returning to the importance of an examination of the large glandular organs, the subjective examination of the kidneys will frequently disclose conditions occasionally unsuspected to be present, and at times quite active.

In this particular, cataract, the retina is more or less hidden from the search of the ophthalmoscope, and hence some reliance can be placed in urinalysis.

It is a well known fact that glycosuria is a frequent cause of cataract and intra-ocular structural changes; hence its presence materially retards nutrition of the tissues, and the operated eye which suffers some traumatism may, in consequence of both, unite very slowly or not at all, and all our efforts destined for so much good, end in complete failure.

The presence of albumen in the urine of a cataract patient should arouse immediate suspicion and recall the possibility that with the changes in the kidneys there might also be synchronous ones taking place in the retina, which possibility should elicit a very guarded prognosis and estimate of vision from the operation.

Furthermore, no detail must be omitted in the history of vision. The acuity and field before the incipiency of cataract should be gotten from the patient. Have the eyes seen well, indifferently or badly? Have they sustained an injury at any time? Have they been painful, crossed, inflamed or conscious of muscæ volitantes? Has the loss of vision been gradual or sudden? Have the glasses been changed frequently. Has any member of the family suffered with hereditary nervous or eye disease? Has there ever been night blindness, etc., in the family?

After having fully satisfied ourselves in regard to the general health of the patient, careful inspection of the eye and its appendages is an absolute essential before operation is performed. They should be taken up separately and methodically, studied for any deviation from the normal and frequent comparisons with each eye made.

IRIS.—The iris should always be atropinized to detect the

presence of anterior or posterior synechia. The movements and slope are frequently suggestive. The color of the irides should likewise be compared for any chromatic aberration, the result of iritis, irido-cyclitis, etc. The anterior surface should also be observed for tumors, rents, scars, etc.

SCLEROTIC.—The sclerotic may have been at some time or other incised or injured, hence it should be seen in full exposure while rotating up, down, in and out; and examined for any evidence, e. g.: scars, idiopathic ruptures, acute, sub-acute, or chronic inflammations.

CORNEA.—Upon the transparency and curve of the cornea depend in a large measure the ultimate success of cataract extraction, and for these considerations direct and oblique light should be thrown upon it to discover any disparity in clearness, e. g.: opacities, pus, blood vessels, etc. The opthalmometer may be used if it be deemed necessary to determine irregularities of curvature, or more conveniently for less accurate work the Placido disc or the reflection of the window frame can be easily and quickly used.

RETINA.—Where only one eye has reached the stage of maturation and the other one is slowly or not at all progressing, an effort should always be made to get a glimpse of the retina with the opthalmoscope. Whenever possible, the field should be mapped out, and furthermore, the acuity of vision in the sound eye must never be overlooked.

LIDS.—The eyelids should be symmetrically studied for their thickness, freedom of movements, the widths of canthi, complete closure over the globe, and for any adhesions to the eyeball, also for any inflammation present.

CONJUNCTIVA.—This membrane is particularly liable to inflammation, and consequently the absence or presence of pannus, pterygium, etc., should be noted. All inflammation of the conjunctiva must have abated before cataract operation is performed.

EYEBALL.—The prominence and movements of the eyeball are elements of no mean importance in the final [illegible] of the

operation; all possible advantage should be taken of them to enhance the surety of the extraction.

Asymmetry in protrusion and movements may suggest orbital growth, etc. An eyeball which is naturally receded in the orbital cavity is less easy of access than one more prominent, and its movements for the same reason more difficult of control. A prominent eye, on the other hand, affords more ease and quicker accessibility, and likewise places the cornea on a higher plane, at which a section can better be made.

It is much better before the operation to get the patient's control of the eye movements, by having him trained to move his eye in the direction ordered, and hold the same until requested to assume another position. One's suspicions would be immediately aroused as to amblyopia if the patient's eye had been turned in or out for a number of years before the operation. The possible inference would be loss of retinal function from non-use or strabismus.

LACHRYMAL APPARATUS.—The health of this drainage system is a very important matter in cataract, as well as any other operative work on the eye. In health, it subserves the necessary office of draining the secretions from the conjunctival sac, while in disease it is nature's drainage tube by which to remove redundant secretions and discharge from the eye. Were it impervious in any part the secretions, etc., would be retained, and the conjunctival sac would have heat, moisture and bacteria (?), the requisites to convert the cavity into a perfect nest for the development of infectious germs, so that any operation done with a stricture, acute or chronic inflammation present could hardly escape infection and its destructive tendency to sight. The blepharal and nasal ends of this drainage system should be patulous, and to make sure of there being no stricture in its entire length, a small amount of a bland antiseptic solution should be gently syringed through the canaliculus sac, etc., and its free passage into the nasal cavity assured before any operation is done, and all inflammations of the lining membrane must also have subsided.

PATIENT.—The day previous to operation the patient should be thoroughly bathed, and active circulation of the skin incited, and if further desired the head and beard trimmed and face shaven. He can also be given small doses of calomel for its hepatic and diuretic action, the latter strengthened by neutral mixture, or a saline purgative may be substituted. An antiseptic and dissolvent solution, made by dissolving one Seiler tablet in half a glass of warm water, should be sprayed or snuffed in both nostrils three or four times, at intervals of five hours, a day or two before operation, to render the nasal cavities clean and free from secretions. The patient should also give perfect rest to his eyes and body for several days before, particularly must he do this with the former. He should also refrain from using his eyes for anything liable to induce congestion, etc. For at least a week before the operation the patient should be put on an exclusive vegetable diet, and where possible he should take a course of mixed treatment for the same length of time.

IMMEDIATE PREPARATION OF THE EYE.—The lachrymal sac and naso-lachrymal canal should be gently irrigated through and through with the above solution of Seiler's tablets, after which the lids, lashes and brows can be thoroughly cleansed with the same fluid. The lashes may be cut down to the lids and the eyebrows shaven to insure more complete asepsis. The lids may now be everted and their surfaces, with the retrotarsal folds, freely but gently bathed in the following wash, made comfortably warm:

℞ Acid Boric.....30 grs.
Sodii Chlord..... ⅔ gr.
Aquæ Camphora..... ℥ vj.

M. Sig.: Use as eye wash.

The lachrymal system may again be flushed, and the eye is ready for operation. The instruments necessary for the operation, with the exception of the Graefe knife, iris scissors, and cystotome, can be boiled and immersed in any antiseptic solution that is customary with the operator. All instruments,

however, should be placed in hot, sterilized water just before being used.

After delivery of the lense and toilet of the eye, the lids of both eyes are closed and sealed with sterilized or carbolized vaseline, after which pad No. 1 (Dr. L. Webster Fox eye-pad,* Phila., Pa.) is placed over each eye, and on this adjusted the binocular pad No. 2; these are held down by ½-inch adhesive plaster, making the neatest and most comfortable dressing imaginable.

It is very necessary that all medicinal solutions for use in the eye should be made warm, and always contain acid boric in combination.

---

*Made by Seabury & Johnson, New York.

THE OCULIST AND THE CODE OF ETHICS.

R. F. MILLER, M. D.,
SHERMAN.

Some of the thinking physicians present today, when reading their programs, may have wondered at my subject, and just how it would be treated. Let me say at the outset that in this paper, should any of my remarks be seemingly critical or carping, they are not so intended, but are made after deliberation, with the hope of raising our branch of practice above some of the unkind and perhaps merited criticism to which it is subjected. At the last meeting of this Association a warm friend of mine, who is a general practitioner, furnished an excellent paper to the Opthalmological Section. The discussion of this brought forth some very harsh criticism of a pretended oculist of our State, who must surely have been a quack.

The Code of Ethics of the American Medical Association should be the professional guide and stay of all physicians, be they general physicians, opthalmologists, aurist or proctologists. Strict conformity to this grand old code may bring us all to the very front of professional honor, stability and confidence, and by our actions we shall build up the profession and weaken the influence of that *bete noir*, the quack.

But some one will ask, where is the trouble? In answer we may say, that it arises from the weakness and violation among our own ranks.

The code, on the "Duties for the support of professional character," section 4, thus reads: "It is derogatory to the dignity of the profession to resort to public advertisements, or private cards, or hand bills, inviting the attention of individuals afflicted with particular diseases."

Even in the face of this injunction a professor of opthalmology in one of the medical colleges of Texas has an advertisement placed along with the bell calls on the doors of a leading hotel

in my city, advertising himself, and closing with these words, "I carry the largest collection of artificial eyes in the State."

Another physician, who is a fellow member with me in at least two medical societies, presents his card well covered with lettering, and in a prominent place the words, "Glasses fitted and prescribed." The grossness of these violations of the code are evident to all of us, and need but little comment.

But some of the acts not so gross are more in evidence, being more general. Under the stairway of a leading hotel in our State the so-called "resident oculist" exhibits an iron safe with his name in bold relief. Others exhibit signs and cards with the word "specialist." Then we come to the still more frequent violation, and one which will prevent election to membership in the American Ophthalmological Society.

I am speaking now of something about which I expect many to disagree. This is the signs hung out by many oculists, which are a violation of the section of the code quoted above. These read thus: Dr. Jones, Eye, Ear and Throat; Dr. Smith, Oculist and Aurist; Dr. Brown, Specialist Eye, Ear, Nose and Throat.

By such signs physicians place themselves in the same class with "Dr. Pizzini," who pares corns for a living, and "Dr. Bologna," who pulls warts.

I love my State and my profession in the State. We have men here who are the peers of the lights of the profession the world over. Their operations are brilliant and their results do follow them. But there is too much advertising, too many of our surgeons make it convenient to have the newspapers notice their goings and comings, their consultations and their surgical performances. Of course we cannot hope to suppress entirely that tireless person, the news reporter, who sometimes embarrasses good, ethical men by a self-informed write-up of operations.

I was amused some weeks ago to see in a New York paper a full account of an old lady restored to sight, after some years of blindness, by a cataract operation. The whole thing was de-

tailed as a recent wonder of science, with a life history of the operator. No doubt but that he was rewarded for his impudence.

But, too many of us are ready to lend a hand, like the female African, who was not willing to be robbed of her virtue unless she was tied, and she wasn't going to tell the robber where the rope was that was up there hanging on the joice.

Should the South be behind the North and East? Are we to be less ethical than our Eastern brethren? During a year's stay in New York among eye, ear and throat men I never once saw a doctor's sign with the words oculist, specialist, or practice limited to eye, ear or throat attached. It is not right, it is not ethical. It is a step toward quackery. An old quack in my town has a large sign reading thus: "Dr. Blank, Oculist, Treats Catarrh, Piles and all Female Troubles," while under his window he has painted these words, "Sore Eyes Cured."

So when I see an oculist with more than his name and hours on his sign, the thought comes that such a man is aiding the quacks by his own violation of the code.

It is time for us to halt, to think, to rectify mistakes, and to raise our branch of practice to the highest professional position, so that like the immortal Calpurnia, we may be above suspicion.

THE TOILET OF THE INJURED EYE.

S. J. TERRELL, M. D.,
DALLAS.

No branch of ophthalmic work offers so much in the way of successful results as the skillful handling of the injured eye. No other portion of the body responds as quickly to the proper treatment of it, and certainly no other portion resents improper treatment as promptly.

Much has been said and written about what to do for an injured eye, and I shall only try to discuss the conservative handling of these cases, taking as far as possible each part of the eye.

INJURIES OF THE CONJUNCTIVA.

Foreign bodies in the conjunctival sac are of frequent occurrence. Grains of sand, lashes, cinders, bits of iron, in fact, debris of all kind may be found on the conjunctiva. There is always present in these cases the sensation of a foreign body in the eye, with pain, redness, and much lacrimation, due to reflex irritation of the lacrimal gland. In many cases the tears wash the particle out, in others the particle lodges somewhere, generally on the inner surface of the upper lid, where it scratches the cornea, causing much pain and discomfort. It is generally an easy matter to flood them out with an antiseptic wash, or if that will not do they may be removed with a needle or spud.

In wounds of the conjunctiva the external hemorrhage is generally slight, but if it be beneath the membrane, it appears to the laity to be of serious import. Small wounds need only an antiseptic wash and a closure bandage. For the wash I use a saturated solution of ac. boric in aq. camph. A large wound may require a stitch. This may be left in two or three days, but requires constant watching, and should be removed at the first indication of tearing out.

Burns of the eye generally attack only the conjunctiva, the sclera being protected by that membrane, and the cornea to a certain extent by its strong epithelium. Effects very similar to the genuine cautery are produced by contact with acids or potash or lime in either its slacked or unslacked state. In all these accidents there is much pain, and where the conjunctiva is touched a scab forms. The conjunctiva looks yellowish or white and its sensitiveness is impaired in a direct proportion to the depth of the burn. If the burn is deep enough to reach the tunica propria a cicatrix results that may cause a symblepharon if the loss of tissue extends to conjunctival surfaces opposed to each other.

The treatment of these cases begins with a thorough cleansing of the eye. Water should not be used if lime is present, as it only adds to the distress; forceps and a piece of cotton wet with oil are better. After cleansing an ointment of atropia and cocaine is put in the eye before bandaging.

Wounds of the cornea are also of frequent occurrence, the most frequent cause being a foreign body. If the foreign body is covered with bacteria, as is usually the case, the result is an ulcer. If free from bacteria, the result may be either mechanical or thermal, if the body be a piece of melted metal. Sometimes, if the foreign body be a piece of metal and remains for some time, there is quite a discoloration surrounding it from the straining produced by the oxide of the metal.

It is not always an easy matter to find a foreign body in the cornea, and it may be easily overlooked. If not seen by simple inspection, you should use focal illumination or the fluorescin test. The treatment consists in the removal of the body. This may be done by a curette or spud. If it be deep in the substance of the cornea care must be used to keep from pushing it into the anterior chamber.

Corneal wounds may be produced in innumerable ways. The signs are as follows: The eye is full of tears and avoids the light. The patient complains of great pain. The eye is red and there is ciliary injection. If the loss of the corneal sub-

stance appears to be slight it is well to use the fluorescin test to estimate the depth of the wound.

The prognosis depends on the location and depth of the wound and on any accidental infection. A simple loss of epithelium will generally heal and leave no trace in twenty-four hours. But if the wound extends into the substantia propria it leaves a scar and is of gravity, especially if it be near the center. Still more serious are perforating wounds. These leave an opening for the aqueous humor to escape, and if large, lead to a prolapse of the iris.

The treatment of corneal wounds consists mainly of the strict application of the principles of antisepsis. Cleanse the eye thoroughly and keep it so. If the wound is large and there is much irritation, you must use a solution of atropia in addition. If the iris has prolapsed endeavor to replace it and retain in place with eserin, if the prolapse be peripheral, or atropia if the prolapse be central. If this fails, draw out the prolapsed portion and do an iridectomy. If the prolapsed portion has become incarcerated in the scar snip off the prolapsed portion.

Injuries to the eyeball may be either by puncture and incision or by a blunt instrument.

In injuries by puncture and incision the danger not only depends on the anatomical injury, but also on whether or not the wound has become infected by pathogenic organisms. The danger is greater in punctured wounds because of the impossibility of drainage. Punctured wounds of the sclero-corneal margin are greatly to be feared because of the involvment of the ciliary body, or it may prolapse into the wound and be incarcerated in the scar. In either case it leads to cyclitis and even sympathetic involvment of the other eye.

Wounds of the sclera are almost always accompanied by a prolapse of the choroid and retina, and by a loss of more or less of the vitreous. Injuries to the lens always cause truamatic cataract, and you should make your prognosis accordingly. In injuries to the lens, where they are followed by a rapid severing

of the lens, remove it at once so as to relieve the intraocular tension.

The treatment of injuries to the eyeball consists first in the thorough cleansing of the eye and conjunctival sac. If the iris has prolapsed proceed as directed in injuries to the cornea. If the lens capsule is involved use atropia and ice compresses. Dust the eye with iodoform and bandage. If the retina is completely prolapsed from loss of vitreous and light perception is destroyed, do an iridectomy at once.

In every penetrating injury of the eye you must ascertain whether any or all of the foreign body remains in the eye. There is always a suspicion of a foreign body in the eye, if after an injury there is pain, photophobia, sensitiveness to pressure and visual disturbance at one time unexplainable by any visible external injury.

The prognosis depends, apart from the mechanical effect of the foreign body, on the location of the foreign body, its chemical nature and whether or not pathogenic bacteria gained entrance with the foreign body. If the last is the case you will have a panophthalmitis develop, resulting in loss of the eye; especially is this true if the germs have reached the vitreous. If the body be aseptic it may be tolerated in the lens in spite of its chemical effect, the result being a traumatic cataract but not necessarily inflammation.

The ciliary body is the most sensitive, even aseptic bodies producing an alarming inflammation. In the vitreous sterile bodies may be retained with little disturbance though their presence is a constant source of danger that may develop into a sympathetic inflammation of the other eye. Statistics collected by Weidman show the following per cent of losses. If the foreign body is in the anterior chamber, 0 per cent. If it be in the lens, 30 per cent. If it be in the vitreous, 71 per cent.

In treating these cases it is well to weigh the chances for healing with the danger of the operation. When the foreign body is in the anterior chamber the danger is slight and it should

always be removed. A lens with a foreign body in it must be removed sooner or later on account of the cataract.

The treatment of a foreign body in the vitreous depends largely on the material of which it is composed. If it is, as in the majority of the cases (74 per cent Weidman) of iron you must resort to the Hirschberg magnet. If it be a splinter or piece of glass or anything of that sort, use an expectant plan of treatment. If the symptoms do not subside with that, then locate the foreign body, incise the sclera and attempt to withdraw the body, and if this fail do an enucleation to avoid danger to the other eye.

The conditions for a successful result in the Hirschberg operation are, an accurate localization of the body, careful antisepsis, an absolutely quiet patient.

The X-ray discovery has done a great deal to help us in successful results in these operations as we can successfully localize the body with it. This having been done an incision in the sclera as near the body as possible and the point of the magnet introduced. The current is then turned on and the metal attracted to it with appreciable force and noise.

LIST OF MEMBERS

OF

The Texas State Medical Association,

OF

AUXILIARY ASSOCIATIONS IN AFFILIATION,

AND OF

OFFICERS SINCE ORGANIZED.

In Memoriam.

Dr. W. J. Burt, Austin, Texas, died July 10, 1886.
Dr. H. W. Moore, Fort Worth, Texas, died September 26, 1886.
Dr. G. K. McGregor, Waco, Texas, died May 12, 1884.
Dr. J. K. Meek, Ennis, Texas, died November 11, 1886.
Dr. James Haley, Moffatt, Texas, died February 20, 1887.
Dr. J. S. Willis, Waco, Texas, died July 6, 1887.
Dr. A. Welch, ———, died September 22, 1886.
Dr. J. T. Howe, Huntsville, Texas, died August 13, 1888.
Dr. Z. W. Baker, Temple, Texas. died December 13, 1888.
Dr. A. C. White, Cuero, Texas, died December —, 1888.
Dr. F. A. Tompkins, Sandy Point, Texas, died July 26, 1888.
Dr. J. M. Ross, Brenham, Texas, died February 10, 1889.
Dr. Y. D. Harrington, Terrell, Texas, died June 9, 1889.
Dr. H. P. Downman.
Dr. J. L. Felder, Jr., Pittsburg, Texas.
Dr. W. H. Hardison, Fort Worth, Texas.
Dr. W. D. Kelley, Galveston, Texas.
Dr. Ed. Randall, Galveston, Texas, died November 13, 1889.
Dr. A. R. Kilpatrick, Navasota, Texas, died September 19, 1887.
Dr. Ashbel Smith, Cedar Bayou, Texas, died January 21, 1886.
Dr. S. F. Starley, Tyler, Texas, died December 19, 1887.
Dr. J. M. Lewis, Mexia, Texas.
Dr. S. T. Lowry, San Antonio, Texas, died June 30, 1890.
Dr. W. H. Park, Tyler, Texas, died November 4, 1885.
Dr. J. B. Robertson, Goliad, Texas.
Dr. W. L. Rogers, Galveston, Texas, died April, —, 1887.
Dr. R. B. White, Ennis, Texas.
Dr. J. H. Martin, Dallas, Texas, died July 18, 1887.
Dr. E. J. Carothers, San Antonio, Texas.
Dr. A. E. Carothers, San Antonio, Texas.
Dr. G. W. Tucker, Comanche, Texas.
Dr. S. A. Towsey, Galveston, Texas.
Dr. Etien Mellou, Brownsville, Texas.
Dr. W. E. Saunders, Sherman, Texas.
Dr. Hilary Ryan.
Dr. W. A. East, Hallettsville, Texas, died December 5, 1885.
Dr. L. S. Cabell, Charlotteville, Va. [Honorary.]
Dr. Willis Westmoreland, Atlanta, Ga. [Honorary.]
Dr. J. H. T. King, Laredo, Texas.
Dr. S. H. Smith, Dallas, Texas.
Dr. A. A. Terhune, Jefferson, Texas.

Dr. L. J. Graham, Henderson, Texas, died April 15, 1891.
Dr. F. T. Paine, Comanche, Texas, died April 16, 1891.
Dr. G. W. Kerr, Waelder, Texas, died April —, 1891.
Dr. T. S. Burke, Corpus Christi, Texas, died September 21, 1891.
Dr. W. T. Strain, Wills Point, Texas, died November 1, 1891.
Dr. W. W. Reeves, Austin, Texas, killed December 29, 1891.
Dr. T. M. Stone, Jasper, Texas, died January 18, 1892.
Dr. E. J. Ward, Waxahachie, Texas, died December 17, 1893.
Dr. E. G. Nicholson, Del Rio, Texas, died February 3, 1893.
Dr. M. S. Crow, Stephensville, Texas, died May 3, 1892.
Dr. C. C. Francis, Cleburne, Texas, died November 16, 1892.
Dr. A. W. Pope, Marshall, Texas, died November 3, 1892.
Dr. A. D. Burroughs, Houston, Texas.
Dr. J. E. Roach, Sipe Springs, Texas, died April 10, 1893.
Dr. C. F. Paine, Comanche, Texas, died September 13, 1893.
Dr. J. L. May, Stephensville, Texas.
Dr. M. H. Oliver, Ennis, Texas, died September 5, 1893.
Dr. John L. Wagley, Cleburne, Texas, died December 13, 1893.
Dr. W. H. Waters, Independence, Texas, died June 4, 1894.
Dr. E. L. E. Castleton, Houston, Texas, died September 17, 1893.
Dr. Jas. Crowling, Houston, Texas, died June 23, 1894.
Dr. H. F. Witherspoon, Corsicana, Texas, died September 7, 1894.
Dr. Michael Perl, Houston, Texas, died January 2, 1895.
Dr. Jas. Kennedy, Galveston, Texas, died March 27, 1895.
Dr. George Cupples, San Antonio, Texas, died April 19, 1895.
Dr. C. B. Raines, Mineral Wells, Texas [Honorary], died June 28, 1895.
Dr. W. P. Burts, Fort Worth, Texas, died September 5, 1895.
Dr. G. M. D. Patterson, Franklin, Texas, died July 8, 1895.
Dr. Josephus Cummings, Austin, Texas, died July 13, 1895.
Dr. A. D. Paulus, Flatonia, Texas, date of death not reported.
Dr. J. L. Carter, Dallas, Texas, date of death not reported.
Dr. W. H. Wilkes, Waco, Texas, died August 14, 1896.
Dr. H. H. Darr, Caldwell, Texas, died November 22, 1896.
Dr. B. W. Bristow, Flatonia, Texas, died July 13, 1896.
Dr. J. S. Letcher, Dallas, Texas, died December 2, 1896.
Dr. W. B. Brooks, Dallas, Texas, died October 4, 1896.
Dr. R. S. Gregg, Manor, Texas, died January 22, 1897.

The above list is all the secretary, unaided, has been able to prepare. Members in possession of facts regarding the death of any of the above, or of members not mentioned, date of death, nativity, when joined the Association, etc., will confer a favor on the secretary by communicating with him, and will also render a service to the Association.—[EDITOR.

NEW MEMBERS

ELECTED AT PARIS APRIL 27-30, 1897.

NAME.	POSTOFFICE.	COUNTY.
Baldwin, Wm. S.	Paris	Lamar
Cantrell, C. E.	Wolfe City	Hunt
Carleton, J. C	Bonham	Fannin
Carson, J. Wes.	Indian Gap	Hamilton
Cross, Walter W	Sylvan	Lamar
Crowder, T. W	Sherman	Grayson
Dorris, Thos. B.	Grapevine	Tarrant
Jenkins, S. M.	Summers Mill	Bell
John, W. N	Nelson, Choctaw Nation, I. T.	
McNeill, W. T.	Valley Mills	Bosque
Marberry, A. J.	Ballinger	Runnels
Milliken, Sam'l E.	Dallas	Dallas
Neel, J. M.	Bonham	Fannin
Odom, J. A	Quinlan	Hunt
Peck, E. D.	Oglesby	Coryell
Ralyea, S. C	Ladonia	Fannin
Sharp, John P.	Goldthwaite	Mills
Wilson, T. M.	Thornton	Limestone
Woodson, Jas. W.	Temple	Bell

HONORARY MEMBERS.

NAME.	POSTOFFICE.	STATE.
Bozeman, Nathan	New York	New York
Crofford, Thomas J	Memphis	Tennessee
Douglass, Richard	Nashville	Tennessee
DuPre, D	Dallas	Texas
Gray, Landon Carter	New York	New York
Heard, T. J.	Galveston	Texas
Keller, Jas. M	Hot Springs	Arkansas
Le Mond, R. F	Denver	Colorado
Litten, J. M.	Austin	Texas
Love, I. N	St. Louis	Missouri
Lydston, Frank G	Chicago	Illinois
McGuire, Hunter	Richmond	Virginia
McMurtry, Louis S	Louisville	Kentucky
Meyer, J. M	Danville	Kentucky
Madden, T. More	55 Merrion Square Dublin	Ireland
Noyes, J. F	535 Broad Street Providence	Rhode Island
Osborn, T. C	Cleburne	Texas
Price, Joseph	Philadelphia	Pennsylvania
Reed, R. Harvey	Columbus	Ohio
Smith, Albert H	Philadelphia	Pennsylvania
Souchon, Edmund	New Orleans	Louisiana
Stout, S. H	Dallas	Texas
Thompson, W. G	34 E. 31st St. New York	New York
Wyeth, John A	New York	New York
Yandell, David W	Louisville	Kentucky
Young, S. O	Galveston	Texas

ORDINARY MEMBERS.

Name	Postoffice	County
Dr. Adams, W. A	Fort Worth	Tarrant
Dr. Akard, G. W	Springtown	Parker
Dr. Alexander, C. M	Coleman	Coleman
Dr. Alexander, J. H	Meridian	Bosque
Dr. Anderson, W. B	Brownwood	Brown
Dr. Ashton, L	Dallas	Dallas
Dr. Autrey, J. L	Luna	Freestone
Dr. Baird, W. T	Dallas	Dallas
Dr. Baldwin, W. S.	Paris	Lamar
Dr. Barham, J. H	Nacogdoches	Nacogdoches
Dr. Bass, T. B	Terrell	Kaufman
Dr. Beaumont, G. B	Coleman	Coleman
Dr. Becton, E. P	Austin	Travis
Dr. Becton, Joe D	McKinney	Collin
Dr. Bell, T. J	Tyler	Smith
Dr. Benbrook, J. T	Dallas	Dallas.
Dr. Bibb, R. H. L	Colonia Sta., City of Mexico, Mex.	
Dr. Black, R. C	Gainesville	Cooke
Dr. Blackburn, J. H	Mineral Wells	Palo Pinto
Dr. Blailock, W. R	McGregor	McLennan
Dr. Blailock, E. B	Woodlawn	Harrison
Dr. Blake, D. B	Cuero	De Witt
Dr. Bobo, C. S	Boyd	Wise
Dr. Booth, T. S	Ardmore	Indian Ter
Dr. Bramlett, A. C	Decatur	Wise
Dr. Braunnagel, J	San Antonio	Bexar
Dr. Brown, J. E	McGregor	McLennan
Dr. Buie, J	Hillsboro	Hill
Dr. Bundy, Z. T	Milford	Ellis
Dr. Burroughs, S. R	Buffalo	Leon
Dr. Burtin, D. T	Grapevine	Tarrant
Dr. Camp, E. N	Lewisville	Denton
Dr. Cantrell, C. E	Wolfe City	Hunt
Dr. Carleton, J. E	Bonham	Fannin
Dr. Carson, J. W	Indian Gap	Hamilton
Dr. Carter, J. T	Walhalla	Fayette

Dr. Cerna, David	San Buenaventura, Coahila, Mexico	
Dr. Chambers, W. F	Austin	Travis
Dr. Chilton, R. H	Dallas	Dallas
Dr. Church, B. F	Los Angeles	California
Dr. Clay, C. L	Moody	McLennan
Dr. Cline, I. M	Galveston	Galveston
Dr. Coble, J. M	Dallas	Dallas
Dr. Coleman, P. C	Colorado City	Mitchell
Dr. Cole, W. F	Waco	McLennan
Dr. Collier, E. S	Wills Point	Van Zandt
Dr. Comfort, J. N	Woodbury	Hill
Dr. Conerly, T. W	San Angelo	Tom Green
Dr. Cooke, H. P	Galveston	Galveston
Dr. Cosby, J. A	Azle	Tarrant
Dr. Cross, W. D	Sylvan	Lamar
Dr. Crowder, T. W	Sherman	Grayson
Dr. Crump, J. G	Saint Jo	Montague
Dr. Cunningham, Sam	Taylor	Williamson
Dr. Daniel, F. E	Austin	Travis
Dr. Davis, Robt. P	Petty	Lamar
Dr. Denton, A. N	Austin	Travis
Dr. Dodson, J. E	Vernon	Wilbarger
Dr. Dodson, T. J	Bartlett	Williamson
Dr Duncan, Thos. G	Victoria	Victoria
Dr. Eads, B. F	Marshall	Harrison
Dr. Eagan, S	Dallas	Dallas
Dr. Eargle, J. J	Proctor	Comanche
Dr. Evans, W. T	Jewett	Leon
Dr. Field, J. T	Fort Worth	Tarrant
Dr. Fly, A. W	Galveston	Galveston
Dr. Ford, F. C	Nacogdoches	Nacogdoches
Dr. Foutz, J. J	Gonzales	Gonzales
Dr. Fowler, B. A	Brownwood	Brown
Dr. Froshang, S. J	Norse	Bosque
Dr. Fry, J. M	Wills Point	Van Zandt
Dr. Fry, H. C	Saint Jo	Montague
Dr. Gammon, Wm	Galveston	Galveston
Dr. Gardner, A. B	Bellville	Austin
Dr. Gilbert, H. C	Smithville	Tarrant
Dr. Gilcreest, J. E	Gainesville	Cooke
Dr. Gilsen, F. J	Calvert	Robertson
Dr. Gladney, S. M	Terrell	Kaufman
Dr. Grammar, R. B	Fort Worth	Tarrant

Dr. Hackler, G. M.	Ennis	Ellis
Dr. Harrington, J. T.	E. Paso	E. Paso
Dr. Haynes, F. E.	Abilene	Taylor
Dr. Herff, Adolph	San Antonio	Bexar
Dr. Herff, F.	San Antonio	Bexar
Dr. Herzog, Sophie	Brazoria	Brazoria
Dr. Hilgartner, H. L.	Austin	Travis
Dr. Hill, B. W. D.	Dawson	Navarro
Dr. Hodges, R. C.	Houston	Harris
Dr. Hons, J. M.	San Marcos	Hays
Dr. Hudson, T.	Belton	Bell
Dr. Hudson, C. P.	Alvarado	Johnson
Dr. Hudson, S. E.	Austin	Travis
Dr. Hughes, C. T.	Meridian	Bosque
Dr. Hulen, V. H.	Galveston	Galveston
Dr. Hurt, Jno. H	Big Springs	Howard
Dr. Inge, J. M	Denton	Denton
Dr. Jarrett, J. C.	Valley Mills	Bosque
Dr. Jenkins, J. H.	Caldwell	Burleson
Dr. Jenkins, S. M.	Summers' Mill	Bell
Dr. John, W. N	Nelson	Indian Ter
Dr. Jones, E. A.	Osage	Coryell
Dr. Kendall, O. J.	Wichita Falls	Wichita
Dr. Kennedy, T. L.	Galveston	Galveston
Dr. Kimbrough, W. G.	Krum	Denton
Dr. King, S. F.	Sherman	Grayson
Dr. Kingsley, B. F	San Antonio	Bexar
Dr. Kirkpatrick, S. B.	Commerce	Hunt
Dr. Knox, R. W.	Houston	Harris
Dr. Knox, M. D	Hillsboro	Hill
Dr. Lancaster, W. H.	Moulton	Lavaca
Dr. Larendon, Geo. W.	Houston	Harris
Dr. Larendon, J.	Houston	Harris
Dr. Leake, H. K.	Dallas	Dallas
Dr. Lee, Geo. H.	Galveston	Galveston
Dr. Lee, W. P.	Cisco	Eastland
Dr. Le Grand, G. F.	Graham	Young
Dr. Lewis, T. Y.	Dublin	Erath
Dr. Link, E. W.	Palestine	Anderson
Dr. Litton, Frank	Austin	Travis
Dr. Loggins, J. C.	Ennis	Ellis
Dr. Lovett, J. A.	Abbott	Hill
Dr. Luttrell, J. M.	Mineral Wells	Palo Pinto

Dr. McCaleb, J. H	Webberville	Travis
Dr. McCustion, L. P	Paris	Lamar
Dr. McCracken, J. H	Mineral Wells	Palo Pinto
Dr. McDaniel, J. H	Centreville	Leon
Dr. McFall, J. W	Lipan	Hood
Dr. McGee, J. A	Rice	Navarro
Dr. McKinney, E. J	DeKalb	Bowie
Dr. McLaughlin, J. W	Galveston	Galveston
Dr. McMahan, R. E	Marshall	Harrison
Dr. McNeil, W. T	Valley Mills	Bosque
Dr. McReynolds, Jno. O	Dallas	Dallas
Dr. Maner, F. B	Itasca	Hill
Dr. Marburg, A. J	Ballinger	Runnels
Dr. Matthew, C. O	Terrell	Kaufman
Dr. Mayes, C. M	Archer	Archer
Dr. Menefee, W. E	Cleburne	Johnson
Dr. Menefee, A. J	Rio Vista	Johnson
Dr. Meyers, R. E	Kemp	Kaufman
Dr. Meyer, Joseph	Paris	Lamar
Dr. Miller, R. F	Sherman	Grayson
Dr. Miller, T. A	Corsicana	Navarro
Dr. Miller, R. A	Dublin	Erath
Dr. Miller, R. L	Decatur	Wise
Dr. Milliken, S. E	Dallas	Dallas
Dr. Monday, W. H	Terrell	Kaufman
Dr. Moore, Wm. H	Runge	Karnes
Dr. Moore, W. M	Paris	Lamar
Dr. Morris, Jno. E	Madisonville	Madison
Dr. Moss, R. E	San Antonio	Bexar
Dr. Mullen, J. A	Houston	Harris
Dr. Neathery, E. J	Van Alstyne	Grayson
Dr. Neal, J. M	Bonham	Fannin
Dr. Newland, W. B	Gatesville	Coryell
Dr. Nichols, J. R	Greenville	Hunt
Dr. Norvell, E. E	Bynum	Hill
Dr. O'Barr, J. T	Ledbetter	Washington
Dr. O'Brien, J. G	Dublin	Erath
Dr. O'Hara, Jno. H	Grandview	Johnson
Dr. Oates, T. F	Mexia	Limestone
Dr. Odom, J. A	Quinlan	Hunt
Dr. Oliver, J. P	Caldwell	Burleson
Dr. Orr, C. L	Kennedy	Karnes
Dr. Osborn, J. D	Cleburne	Johnson

Dr. Paine, J. F. Y.	Galveston	Galveston
Dr. Peck, E. D.	Oglesby	Coryell
Dr. Peeples, D. L.	Navasota	Grimes
Dr. Perkins, A. N.	Sabine Pass	Jefferson
Dr. Powell, W. P.	Willis	Montgomery
Dr. Powell, J. H. E.	Smithville	Bastrop
Dr. Prestrige, B. G.	Alvarado	Johnson
Dr. Raines, C. B.	Mineral Wells	Palo Pinto
Dr. Ralyea, S. C.	Ladonia	Fannin
Dr. Ray, D. M.	Whitewright	Grayson
Dr. Red, S. C.	Houston	Harris
Dr. Reid, D. S.	Wortham	Limestone
Dr. Rice, S. P.	Marlin	Falls
Dr. Roark, R. H.	Aurora	Wise
Dr. Rosser, C. M.	Dallas	Dallas
Dr. Rush, E. W.	Paris	Lamar
Dr. Saunders, Bacon	Fort Worth	Tarrant
Dr. Scarborough, A. O.	Snyder	Scurry
Dr. Schenk, A. H.	Kinney	Austin
Dr. Schropshire, L. L.	San Antonio	Bexar
Dr. Scott, A. C.	Temple	Bell
Dr. Sears, J. H.	Waco	McLennan
Dr. Sedberry, W. R.	Clifton	Bosque
Dr. Self, T. N.	Joshua	Johnson
Dr. Sessions, E. L.	Hillsboro	Hill
Dr. Sharpe, Jno. P.	Goldthwaite	Mills
Dr. Shearer, T. W.	Wallisville	Chambers
Dr. Sholars, S. W.	Orange	Orange
Dr. Shropshire, D. N.	Alvarado	Johnson
Dr. Shultz, C. A.	Alvarado	Johnson
Dr. Simons, J. E.	Caney	Matagorda
Dr. Sims, R. S.	Iowa Park	Wichita
Dr. Smart, Jas. H.	Dallas	Dallas
Dr. Smith, A. J.	Galveston	Galveston
Dr. Smyth, T. F.	Mexia	Limestone
Dr. Stallcup, J. H.	Jefferson	Marion
Dr. Starley, W. F., Jr.	Galveston	Galveston
Dr. Stephens, E. L.	Fort Worth	Tarrant
Dr. Strayhorn, J. M.	Bartlett	Williamson
Dr. Stuart, Joe R.	Houston	Harris
Dr. Suttle, I. N.,	Corsicana	Navarro
Dr. Swearingen, R. M.	Austin	Travis
Dr. Tabor, Geo. R.	Bryan	Brazos

Dr. Tate, H. L.	[illegible]	[illegible]
Dr. Taylor, T. W.	[illegible]	[illegible]
Dr. Terrell, L. L.	[illegible]	[illegible]
Dr. Terrell, W. M.	[illegible]	[illegible]
Dr. Thomas, G. T.	[illegible]	[illegible]
Dr. Thomas, [illegible] W.	[illegible]	[illegible]
Dr. Thompson, F. D.	[illegible]	[illegible]
Dr. Thompson, J. E.	[illegible]	[illegible]
Dr. Townes, J. M.	[illegible]	[illegible]
Dr. [illegible] W.	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible] H.	[illegible]	[illegible]
Dr. [illegible] T. J.	[illegible]	[illegible]
Dr. [illegible] R. R.	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible] W. W.	[illegible]	[illegible]
Dr. [illegible] R.	[illegible]	[illegible]
Dr. [illegible] W. A.	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible] H. A.	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]
Dr. [illegible]	[illegible]	[illegible]

AUXILIARY ASSOCIATIONS IN AFFILIATION.

The following Societies have been reported as in affiliation with the State Association:

Western Texas Medical Association. B. E. Hadra, M. D., President, San Antonio; Jno. W. Kenney, M. D., Secretary, San Antonio.

Southeast Texas Medical Society. Dr. T. B. Sellman, President, Village; Dr. B. F. Calhoun, Secretary, Beaumont. Meetings every three months at Beaumont.

Central Texas Medical Association. J. D. Law, M. D., President, Salado; Maroni L. Graves, M. D., Secretary, Waco. Membership, 1896—98.

Waco Medical Society. Names of officers not reported. Number of members, 1896—30.

Johnson County Medical Society. W. E. Menefee, Secretary, Cleburne. President not reported. Number of members, 1896—37.

Austin District Medical Society, Austin, Texas. A. N. Denton, M. D., President; S. E. Hudson, M. D., Secretary.

Travis County Medical Society, Austin, Texas. Matthew M. Smith, M. D., President; Q. Cincinnatus Smith, M. D., Secretary.

Austin County Medical Society. —— Thompson, M. D., President, Nelsonville; A. H. Schenk, M. D., Secretary, Kenney, Texas.

Williamson-Bell-Milam County Medical Society. Chas. C. Gidney, M. D., President, Granger, Texas; J. C. Anderson, M. D., Secretary, Granger, Texas.

East Texas Medical Society. J. T. Bell, President, Tyler; E. A. Woldert, Secretary, Tyler. Number of members, 1896—57.

Ellis County Medical Association. J. C. Loggins, M. D., President, Ennis; Chas. W. Simpson, Secretary, Waxahachie. Number of members, 1896—34.

East Line Medical Association. Names of officers not reported. Number of members, 1896—44.

Hill County Medical Association. Officers and members not reported.

North Texas Medical Association.

Terrell Medical Association.

Brazos Valley Medical Association. Officers and members not reported.

South Texas Medical Association. B. F. Calhoun, President, Beaumont; Vard H. Hulen, Secretary, Galveston, officers for 1898.

OFFICERS OF THE TEXAS STATE MEDICAL
HOUSTON, TEXAS,

Session.	Date of Meeting.	Place of Meeting.	Presidents.	First Vice Presidents.
1	June, 1869..	Houston	T. J. Heard.....	R. H. Jones .....
2	June, 1870..	Houston	R. H. Jones.....	R. W. Lindsay.....
3	June, 1871..	Houston	D. R. Wallace	L. Hudspeth.....
4	June, 1872..	Houston	R. T. Flewellen...	J. A. McQueen.....
5	April, 1873..	Waco.....	D. F. Stuart	H. W. Brown .....
6	April, 1874..	Dallas	A. G. Clopton.....	T. D. Wooten.....
7	April, 1875..	Austin	H. W. Brown	L. R. Mayfield.....
8	April, 1876..	Marshall.....	R. H. Harrison ...	John H. Pope.....
9	April, 1877..	Galveston	W. D. Kelley.....	Geo. Cupples.....
10	April. 1878..	San Antonio...	Geo. Cupples.....	R. W. White.....
11	April, 1879..	Sherman.....	John H. Pope.....	S. F. Matchett.....
12	April, 1880..	Brenham.....	A. R. Kilpatrick..	R. M. Swearingen.....
13	April, 1881..	Waco	Ashbel Smith.....	S. F. Starley .....
14	April, 1882..	Fort Worth.....	S. F. Starley.....	W. P. Burts.....
15	April, 1883..	Tyler	A. P. Brown.....	T. H. Nott.....
16	April, 1884..	Belton	H. C. Ghent.....	E. P. Becton.....
17	April, 1885..	Houston	E. P. Becton.....	R. Rutherford .....
18	April, 1886..	Dallas	T. H. Nott.....	R. H. Chilton.....
19	April, 1887..	Austin	S. R. Burroughs ..	R. T. Knox .....
20	April, 1888..	Galveston	J. F. Y. Paine	H. K. Leake.....
21	April, 1889..	San Antonio...	R. M. Swearingen	A. Sims.....
22	April, 1890..	Fort Worth....	W. P. Burts.....	J. C. J. King.....
23	April, 1891..	Waco	W. H. Wilkes.....	P. C. Coleman.....
24	April, 1892..	Tyler	J. D. Osborn.....	T. J. Bell .....
25	May, 1893..	Galveston	J. H. Sears.....	C. M. Rosser.....
26	April, 1894..	Austin.....	J.W. McLaughlin	W. L. York.....
27	April, 1895..	Dallas	P. C. Coleman	J. T. Wagley.....
28	April, 1896..	Fort Worth.....	J. C. Loggins	A. N. Denton.....
29	April. 1897..	Paris.....	Bacon Saunders...	S. C. Red.....

*Died July, 1886, and F. E. Daniel was appointed till next meeting.

ASSOCIATION SINCE ITS ORGANIZATION AT JUNE 16, 1869.

Second Vice Presidents.	Third Vice Presidents.	Secretaries.	Treasurers.
D. W. Wallace		A. Connell	F. Hassenberg
W. J. Locke		A. Connell	W. P. Riddell
J. T. Norris		A. Connell	W. P. Riddell
D. F. Stuart		A. Connell	J. Larendon
J. M. Morrison		S. O. Young	J. Larendon
M. H. Oliver		W. A. East	J. Larendon
M. A. Taylor	R. H. Harrison	W. A. East	J. Larendon
T. W. Wiley	W. H. Park	W. A. East	J. Larendon
R. M. Swearingen	J. H. Sears	W. A. East	J. Larendon
W. E. Saunders	J. T. Field	W. A. East	J. Larendon
S. F. Starley	S. Eagan	W. A. East	J. Larendon
E. J. Beall	O. H. Seeds	R. H. L. Bibb.	J. Larendon
J. W. McLaughlin	J. A. Summers	R. H. L. Bibb.	J. Larendon
W. A. Adams	Joe S. Willis	W. J. Burt	J. Larendon
J. D. Osborn	Frank Allen	W. J. Burt	J. Larendon
H. H. Darr	M. Matkin	W. J. Burt	J. Larendon
John C. Jones	S. R. Burroughs	W. J. Burt	J. Larendon
J. C. Loggins	H. L. Parsons	W. J. Burt*	J. Larendon
A. M. Douglass	A. A. Terhune	F. E. Daniel	J. Larendon
A. V. Doak	O. Eastland	F. E. Daniel	J. Larendon
B. F. Kingsley	I. E. Clarke	F. E. Daniel	J. Larendon
M. D. Knox	W. W. Reeves	F. E. Daniel	J. Larendon
W. L. Rogers	B. H. Vaughan	H. A. West	J. Larendon
F. W. Pitts, Jr	T. J. Bennett	H. A. West	J. Larendon
E. M. Rabb	W. A. Watkins	H. A. West	J. Larendon
W. R. Blailock	W. H. Lancaster.	H. A. West	J. Larendon
N. B. Kennedy	T. B. Bass	H. A. West	J. Larendon
J. S. Letcher	David Cerna	H. A. West	J. Larendon
A. C. Scott	C. M. Alexander	H. A. West	J. Larendon